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THE VETERINARIAN,

A MONTHLY JOURNAL OF VETERINARY SCIENCE.

DECEMBER, 1890.

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BOOKS, ETC., RECEIVED.

A Treatise on the Diseases of the Sheep; being a Manual of Ovine Pathology. By John Henry Steel, F.R.C.V.S., F.Z.S., A.V.D.

The Veterinary Surgeon's Diary and Note Book for 1891, *for the Use of Practitioners and Students.* By E. E. Bennett.

The Polytechnic Magazine, November.

The Johns Hopkins Hospital Bulletin.

The Journal of Comparative Medicine and Veterinary Archives, September, October, and November.

The following foreign publications are to hand:—*Annales de Medecine Vétérinaire*, November, 1890; *Oesterreichische Monatsschrift für Thierheilkunde, und Revue für Thierheilkunde und Thierzucht*, November, 1890; *Archivio per le Scienze Mediche, La Clinica Veterinaria* (Milan), October, 1890; *Zeitschrift für Veterinärkunde mit besonderer Berücksichtigung der Hygiene*, Berlin, November, 1890; *Recueil de Médecine Vétérinaire*, September; *Zeitschrift für Fleish- und Milchhygiene*, October; and *Journal of the National Agricultural Society of Victoria*, Vol. V, No. 62; *Baltimore American.*

Papers received: *Mark Lane Express, North British Agriculturist, Land and Water, The Field, Live Stock Journal, Bell's Weekly Messenger, Agricultural Gazette, Farmers' Gazette*, Dublin; *Isle of Wight Observer and Chronicle, The Isle of Wight County Press, The Andover Observer, The Gazette*, Montreal; *The Evening Dispatch*, Edinburgh; *Macclesfield County Herald, The Licensed Victualler's Mirror*, and *The Peterborough Advertiser.*

It is particularly requested that in future the British and Foreign Exchange Journals be directed to the Editors of the *Veterinarian*, 22½, Bartholomew Close, London, E.C.

NOTICE TO CORRESPONDENTS.

To ensure the publication of Cases and Communications in the coming Number they should arrive by the 15th of the Month.

Letters, Reports of Cases, etc., may be directed either to Professor Simonds, J.P., Ryde, Isle of Wight, or to the "Editors," at the Royal Veterinary College, or to the care of Adlard & Son, printers, 22½, Bartholomew Close, London, E.C.

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THE

VETERINARIAN.

VOL. LXIII. No. 756. DECEMBER, 1890. Fourth Series, No. 432.

Communications and Cases.

IS A NEW CHARTER REQUIRED?

By Thomas Greaves, F.R.C.V.S., Manchester.

In the *Veterinary Record* for November 1st, 1890, p. 215, I see recorded a report of the Lincolnshire Veterinary Medical Association, in which several members discuss the question "Is a new Charter required?" From the observations made it would appear that empiricism is riding rampant in some parts of Lincolnshire, and that a new Charter is urgently required in order to put down quackery. This new Charter is therefore to put all this straight at once. *No man can conceive a greater delusion;* and if we are to take this as a sample of the enlightened opinion of provincial members through the land, my vote on the subject will be entirely wide of the mark. In the first place, the new Charter has not the slightest power—it has not the remotest pretence—to prevent men docking horses or doing anything in the way of treating sick or lame domestic animals; so I hope and trust that the members of every veterinary medical association *will at once disabuse their minds of this erroneous idea.* It must be remembered that a Charter is an instrument granted by the Queen; and the Queen and her ministers of themselves have no power whatever to inflict a fine of even half-a-crown, or imprisonment on any of Her Majesty's subjects. It requires an Act of Parliament—that is, an instrument combining the authority of Queen, Lords, and Commons, to give power or authority to magistrates to inflict a fine

or imprisonment as a punishment to anyone infringing the said Act. This Act we have already, and it is put into motion in every case that is properly brought before the Council. Now it appears to me that the agitators for this new Charter are so fond of change that they would make a change simply for change's sake. They are fomenters of discontent who agitate for this, especially as the present system works so well and is so eminently satisfactory to the profession in general.

They say the "dual appointment" must be abolished; but these men have not brought the slightest evidence or proof that the profession has suffered in the slightest degree through it. I am prepared to say emphatically it has been found of immense advantage and convenience to the Council.

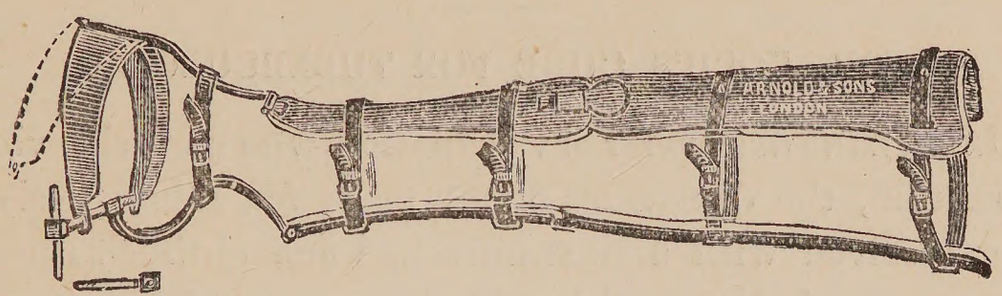
It is because these officers are valuable and useful men—men of unswerving constancy, men with special aptitude—that they have been elected to the dual office; they are faithful and devoted servants to the profession, and I say it will be a loss, and a sad one to the profession if ever this narrow view is adopted. As to the 9th Clause, the object of it was to create an additional incentive to increased study, and cause the character of our profession to be more respected; indeed, it was expected that every good man and true would aspire to take this higher degree. Every member with ordinary ability can become a Fellow if he likes. At the time this supplementary charter was granted in 1876, *the profession was wide awake, and it is a reflection on the profession to say it was not.* The matter was discussed over and over again at every veterinary medical association, at many committees and quarterly meetings of Council, and also at the annual meeting of the profession, and approved of at every meeting, *the whole profession giving tacit consent to it.* Therefore, I say a new Charter is unnecessary. My deep-rooted, and I believe well-founded, conviction is that the path of duty lies in the continuance of our present system.

ADJUSTABLE SPLINT.

By James Cooke, F.R.C.V.S., Scarborough.

Messrs. Arnold and Sons, of West Smithfield, have made for me a splint which will be found useful in all cases where the limb is required to be kept in a fixed position. It will assist in bringing about a favorable termination in cases of

ruptured tendons, fractures, dislocations, and open joints. After the operation of tenotomy it will be worth a trial, as by this means a rupture of the sesamoideal ligament—which is often diseased—may be avoided. By its use it will not be necessary to tightly bandage the *whole* length of the limb from the foot to the elbow, thus squeezing the



blood out of the parts and causing numbness and swelling, thereby retarding the healing process, and interfering with an open wound being properly dressed. The shoe will fit most sized feet, and may be easily fixed without nails; the toe works on a pivot, and the heel may be adjusted to suit the foot by means of different sized screws. The heel can be raised from the ground if required by means of screw frost cogs (not shown in the drawing); the hinge-joints at the fetlock are rendered fixed by a thumb-screw; the splint by this means can be fitted to the limb at a suitable angle. At the knee, both in front and behind, there are projecting pieces of the upper splints which fit into openings on the lower splint. If it is not necessary that the limb should be fixed above the knee, the upper parts can be removed. It may be suitably applied to the limbs of cattle, or below the hock of the hind limb.

Facts and Observations.

France and Cattle Diseases.—The Government of France has forbidden the introduction and also the transport of cattle, sheep, and pigs from Belgium and Holland either by land or sea.

THE VETERINARIAN, DECEMBER 2, 1890.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

DR. KOCH'S CURE FOR TUBERCULOSIS.

UNLIKE the discoverer of vaccination, who met with violent opposition, the discoverer of a remedy for tuberculosis has been received with almost universal and enthusiastic support. Indeed, Dr. Koch's friends go much faster than the teacher, and we observe he who speaks with reserve of the effects of the new treatment is the learned Professor himself.

At the time we are writing Dr. Koch has not announced his method to the world, but it may be gathered from what has been said that the fluid employed contains some of the ptomaines, resulting from the action of the microbe of tubercle on an albuminous fluid. At present, however, all that can safely be asserted is that very remarkable effects follow the subcutaneous injection of the lymph in an individual affected with tubercle in the lungs, skin, or other parts of the body. First it is noticeable that a man requires a much smaller dose than a guinea-pig. Calculated by comparative body weight, the small animal can bear a dose 1500 times stronger than a man requires.

Thus a healthy guinea-pig will bear the injection of 2 c.c. of the fluid without showing any effect, while 0·25 c.c. injected under the skin of a healthy man produces an intense effect, fatigue, difficult breathing, cough, pain in limbs, sickness, ague, and marked rise of temperature.

Patients suffering from tubercle in any form react to 0·01 c.c., and for delicate children with tubercle 0·001 c.c. is found to be an ample dose. Lupus and scrofulous disease of joints furnish results which may be watched. A few hours after injection the symptoms above described occur; but in addition the local disease becomes intensified, and spots not before apparent come into view.

Owing to the curious and decided reaction of the remedy

in tuberculous subjects under the influence of minute doses which cause no reaction in healthy individuals, nor in those affected with other diseases, Dr. Koch proposes to consider the remedy a powerful aid to diagnosis, and for this object alone the discovery will be of vast importance.

Dr. Koch's experiments seem to have been limited at present to guinea-pigs and human beings. We learn, however, that the Imperial German Government have decided that the remedy shall be tested in cattle, and we are informed that the Board of Agriculture have applied for some of the agent with the same object in view. Whatever may be the final outcome of Dr. Koch's startling discovery, there is an enormous amount of hard experimental work before us. The marvellous variation in the susceptibility of the human being as compared with that of a small rodent, renders it impossible to calculate doses on a mathematical basis, and every animal which is liable to the disease of tubercle, local or general, must be carefully tested as to its reaction before the dose necessary for the purposes of diagnosis and cure can be fixed. One unexpected fact announced in respect of the action of the remedy is that it does not kill tubercle bacilli, but the tubercle-tissue in which the bacilli live, and by repeated doses of increasing potency it is proposed to hunt them out of their habitat until they are finally expelled. To the members of the veterinary profession we venture to throw out the suggestion that the value of the remedy as an aid to diagnosis cannot be overrated; too much must not be expected from its curative power among the animals of the farm, for reasons which all breeders will appreciate—all, at least, who realise what is meant by prepotency in the transmission of disease in obedience to the law of inheritance.

Extracts from British and Foreign Journals.

CONDITIONS OF THE PULMONARY CIRCULATION.*

Being the Harveian Oration delivered at the Royal College of Physicians on October 18th, 1890. By JAMES ANDREW, M.D.Oxon., F.R.C.P., Physician to St. Bartholomew's Hospital.

(*Continued from p. 753.*)

"IN the first rank of the ills which beset the profession I do not hesitate to place the enormous amount of so-called medical literature. Were it all good there would still be quite enough of it; but could we get rid of the vain repetitions of all the books which contain little or no original work, and are too often the damaged seed, not the fruit, of practice and of a ripe experience—could we get rid of all the clinical observations, with the idle theories based upon them, which from their imperfections are simply misleading—could this he done, the residue no doubt would be small, might indeed bear much the same proportion to the original mass as fine gold does to the ore from which it has been extracted, but it would be far more valuable than anything which medical literature in its present form can offer to us.

"There is one publication which I regard with especial horror—the 'invaluable' *Index Medicus*. I find that the volume for 1889 (the last completed, but not the greatest of eleven volumes) contains the names of not fewer than 13,870 contributors. Now the index of the *Index* fully bears out the supposition that each pair of contributors represents not less than three communications, and thus we have a total of not less than 20,000 contributions to medical science for last year. I have much pleasure in admitting that many of them are short, but then it must not be overlooked that many of them are substantial treatises in two volumes or more. That one volume of the *Index* alone contains sufficient material for a small library of monographs and systematic treatises, which a very moderate amount of mechanical industry could easily put together. I venture to think that no small part of medical literature would never have been written had its authors given heed to Harvey's words at the end of the Dedication of his treatise on the 'Motion of the Heart and Blood.' 'My dear colleagues,' he writes, 'I had no purpose to swell this treatise into a large volume by quoting the names and

* Extracted from the *British Medical Journal.*

writings of anatomists, or to make a parade of the strength of my memory, the extent of my reading, and the amount of my pains; because I profess both to learn and to teach anatomy, not from books but from dissections; not from the positions of philosophers, but from the fabric of Nature. I avow myself the partisan of truth alone; and I can, indeed, say that I have used all my endeavours, bestowed all my pains, on an attempt to produce something that should be agreeable to the good, profitable to the learned, and useful to letters.'

"Again, a very common reproach cast upon our profession is that we pretend to be, and are not, scientific—that, to quote an old sarcasm, our occupation consists in putting drugs of which we know nothing into bodies of which we know less. There is just sufficient truth in such criticisms to make them somewhat unpleasant to those for whose good they are no doubt intended; but they derive the keenness of their sting from our own shortcomings and mistakes. We claim too much and do too little for medicine; we forget that our duty as medical men is twofold—to practice an art and to study and advance a science; that we are bound to make the best use we can of the knowledge within our reach, and if possible to add to it in the using; but this last is not our chief duty. We dare not sacrifice the interests, the life, of one single patient to the advancement of science. If our conscience were to cease to forbid us to do this, then the sooner modern science deprives us once for all of such a treacherous guide the better for the world will it be. A man may be a first-rate practitioner and yet have no title whatever to be ranked among scientific physiologists, as a sailor may be a first-rate navigator without being in any proper sense of the words a scientific astronomer or mathematician or physicist. Yet, in spite of this admision, the physiologist ought to be the last to taunt us with ignorance and empiricism, for his own science would be far more imperfect than it now is were it stripped of all that it owes to the results of medical and surgical practice.

"One of the best, if not the best, definitions of 'medicine' is that which describes it as 'applied physiology.' If we fail to attain to that ideal; if we are compelled daily to act upon probabilities in place of scientific certainties, then the blame must rest at least as much on the physiologist as on ourselves. He fails to supply us with the knowledge which we require and which he alone can give us. Medicine is thus but one of many instances of an art stunted by the insufficient development of the science with which it is con-

nected and on which it rests. I do not mean insufficient in a general sense, but insufficient for certain special purposes.

"Permit me to anticipate a very possible criticism upon what I have just said. It may be thought that my words are an unfair attack upon physiology, and that, safe from immediate contradiction, I have sought to defend medicine by abusing the very science to which, of all sciences, we are most deeply indebted. Now, if I have indeed done this thing, I have been guilty of the basest ingratitude; I have ignored the splendid services which physiology has rendered to medicine—services which we believe to be but the earnest of others yet more splendid in the near future. If physiology is, as it seems to me, not yet equal to all the requirements of medicine that is, certainly not due to the indolence or weakness of those who cultivate it, but to the inherent difficulties of their task. They have done all, and more than all, which we could have looked for. But at the sight of sickness which we cannot heal we grow impatient, unreasonable, and long for knowledge not yet within the reach of man. We even refuse to recognise the wisdom of those who decline to attempt to solve by scientific means problems not yet ripe for such solution. However, although the object matter with which we deal lends itself unwillingly to strict scientific method; although from its very nature we are unable to submit it to direct experiment, except in most imperfect fashion, it may still be studied and observed in a scientific spirit. Every case of disease may be—ought to be—looked upon as an experiment in practical physiology, an experiment carried out with transcendent skill by Nature herself, but which she leaves it to us to observe, to register, and to interpret.

"Now in this matter of scientific observation it cannot be denied that we fall very far short of what we might accomplish. It will do our profession no good to dwell upon the legitimate excuses which may in part explain our failure; rather let us acknowledge that failure, and use our utmost efforts to remove it. Nor are leaders wanting who can teach us how this may best be done. We need not look beyond the circuit of our college to find men who can, and do, carry on their daily work in this scientific spirit, approving themselves herein worthy followers of the example of Harvey.

"Surely we cannot regard Harvey the physician as less scientific than Harvey the anatomist and physiologist, when we find him showing from certain familiar reasonings that the circulation is matter both of convenience and necessity. In his hands, the physical signs of an aneurysm, the effect of extreme cold, the phenomena which attend 'contagions,

poisoned wounds, the bites of serpents and rabid animals, lues venerea, and the like'—all these are made to supply probable and cogent arguments for the truth of the doctrine of the circulation of the blood.

"Were our clinical knowledge as carefully accurate in its statement of facts, were it always used as soberly and to as good purpose as Harvey's was, then there would be, there could be, no outcry raised against us on the score of credulity, or of want of scientific method. When he had arrived at a knowledge of the circulation of the blood by means of anatomical researches and vivisections, Harvey at once applied this knowledge to the explanation of clinical phenomena up to that time inexplicable. He then used the fact that this explanation was a simple and adequate one as a new and strong argument for the truth of his discovery.

"That this intimate connection, this solidarity, between physiology and medicine is no longer recognised so fully as it once was is much to be regretted, for it is injurious to both lines of study, and has arisen, at least in part, from faults on both sides. But this view must not be pushed too far. We must not lose sight of the fact that the relationship between physiology and medicine has in many ways greatly changed during the last 250 years, and that such change is a necessary consequence of the progress made by physiology.

"In Harvey's time, in any classification of the sciences, physiology might have been regarded as a department of medicine. I need scarcely say that now the reverse would be the case. The two deal, it is true, with the same object-matter, for there is no physiological fact or law which is without some bearing upon medicine; and again every medical fact or generalisation, even those most purely empirical, is more or less important to physiology. But their aims and methods are so different that they tend inevitably to become more and more sharply differentiated from each other.

"The goal of physiology is truth—that is, perfectly trustworthy knowledge of a certain class of facts and laws, and this independently of any use, good or bad, to which that knowledge may be put. The goal of medicine is power—that is, ability to manipulate certain natural forces in such fashion as to produce certain effects. No doubt theoretically the two ends coincide, and we may hope that in some remote future they will do so in reality and perfectly. For the present we must be content with having in one direction much knowledge which confers little or no power, and, on another side, very imperfect knowledge which yet brings with it very great power, too often ill-directed.

"Again, their methods are different. Physiology by slow degrees has come to rely more and more on purely scientific modes and instruments of research, and to apply them by preference to matters which can be brought to the test of direct experiment. Medicine, on the other hand, has no choice but to remain, so far as it has a scientific side, a science of observation; for anything like effective investigation of the matters with which it deals by direct experiment is impossible. As physiology slowly reduces to order the apparently hopeless confusion of so-called vital actions, the easiest questions are attacked and answered first, and thus those which have to be faced later in their turn are more and more difficult, more and more refractory to scientific analysis. Now, these more difficult questions are often of vital importance to medicine, and in them lie dormant vast possibilities of increased knowledge of the nature of disease, of increased power over it. And yet, from the great difficulty of subjecting them to experiment, physiology may seem for a time to fail us, and the task of employing physiological results to explain clinical facts or to form the basis of rational treatment becomes harder than ever.

"This brief sketch of the relations between physiology and medicine, and of the change which has gradually taken place in these relations—a change leading in appearance and for a time to a great widening of the interval which separates two sister sciences—is, I well know, very imperfect and full of contentious matter, but it arose naturally and took its colour from my own experience, and especially from that of the last few months.

"Not the lest important part of the charge of the Harveian Orator is that which directs him to exhort the Fellows and Members of the College to search and study out the secrets of Nature by way of experiment. It is a little embarrassing for the scholar to find himself called upon to instruct his teachers, but I think that I cannot employ the time at our disposal better or in a manner more agreeable to the declared intention of the great founder of this lecture than by laying some recent experience of my own before you. I do this with much diffidence and a full consciousness of my own inability to deal satisfactorily with the weighty matters involved in it, and would ask you not to overlook my shortcomings, but to correct them.

"In the course of last winter it was my fortune, whether good or bad I know not, to meet with several severe cases of hæmoptysis, two or three of which, in spite of my best efforts, ended fatally. About the same time I rashly under-

took to give a lecture on the treatment of hæmoptysis at the City of London Hospital for Diseases of the Chest. My attempt to instruct others was repaid by the highest reward which can fall to the lot of a would-be teacher: the conviction of my own ignorance. I found, not for the first time, what many of you must also have found, that the treatment of hæmoptysis is eminently unsatisfactory; in fact that, beyond a few general measures and simple remedies, all tending to reduce blood-pressure in the vascular system as a whole, it was very doubtful whether our present supposed knowledge enables us to do any good at all to our patient. I was reduced to a state of therapeutic despair, and even suspected that of the drugs commonly employed some might be actually injurious. The same feelings, the same sense of helplessness, had often passed over me before, but without any good result. This time the stimulus, perhaps, of St. Luke's Day was stronger, and I tried to look for a remedy. The following enumeration of remedies which, at different times, and on more or less satisfactory grounds, have been supposed to be of value in the treatment of hæmoptysis, is taken from a well-known standard work on *Pharmacology, Therapeutics, and Materia Medica.* Long as it is, a less critical author might have made large additions to it; nor have I any fault to find with the place which it and similar lists occupy in therapeutical writings; they are a necessary part of the work, and in this case the writer has been careful to add to its value by drawing special attention to those means in which he believes that the most reliance may be placed. It is noteworthy that he does this in three cases only, namely, gallic acid, hamamelis, and lead acetate.

"'*Remedies for Hæmoptysis.*—Acetic acid, aconite, alum, ammonium chloride, arnica, astringent inhalations, barium chloride, chlorodyne, chloroform to outside of chest, copaiba, copper sulphate, digitalis, dry cups to chest, ergot, and ergotinin, ferric acetate, ferri persulphas, gallic acid, hamamelis, hot-water bag to spine, ice, ipecacuanha, iron and absolute rest, lead acetate, matico, morphine, opium, phosphoric acid, potassium bromide, potassium chlorate, potassium nitrate, pyrogallic acid, silver oxide, sodium chloride in drachm doses, subsulphate of iron, sulphuric acid, tannin, tr. laricis, turpentine, veratrum viride.'

"Now, on looking through a long list like this, one's first and last thought is that it gives us a very good illustration of the truth of the old axiom that, when many drugs are supposed each to cure one and the same disease, we may safely hold that few, if any, of them have the least influence

over it. Some of these before us have been proposed on chemical, some on nervous or vascular-nervous theories, and the claims of a few have been supported by direct physiological experiment; but all in the last resort profess to have had their worth determined by clinical observation of the effects which follow upon their employment. In a matter of this kind, however, clinical observation has to be received with great distrust, and must be carefully sifted. It is not sufficient to quote a long list of cases in a large percentage of which complete recovery followed the exhibition of certain remedies. With this we want a control list of the issues of cases which have run their course without any treatment whatever; and, so far as hæmoptysis, or, indeed, any other disease is concerned, no such control list exists. Experience in large out-patient hospital practice for many years taught me that cases of hæmoptysis, of all degrees of severity, are of very frequent occurrence, in which recovery takes place without any medical interference, and that, too, under very unfavorable conditions of life. And, further, that this *vis medicatrix naturæ*, this self-help, shows its power most clearly in what may seem to be the worst cases—that is, a patient has a sudden, rapid, profuse hæmoptysis; he remains at home, and the bleeding does not return, or only after a long interval, to be reckoned by weeks, months, or even years: or, again, so soon as, or even before, the hæmorrhage has ceased, he is seen by a doctor, who injects ergotine subcutaneously, and believes, pardonably enough, that the injection has stopped the bleeding. But in each case the syncope following the sudden loss of even a comparatively small quantity of blood has given sufficient pause to the circulation to favour the formation of a clot in the ruptured vessel itself, or in the bronchus or vomica with which it communicates.

"We cannot judge of the effect of remedies without some knowledge of the natural history of the diseases in which they are employed. Perhaps in the case of hæmoptysis the same mistake—namely, that of attributing the natural termination of a pathological process to the effect of remedies—is repeated which up to a few years ago was made in that of pneumonia, another pulmonary affection; and of the specific fevers. Clinical observation has so far failed to give anything like scientific proof of the supposed influence of certain drugs upon hæmoptysis—that is, upon the pulmonary circulation.

"After all, it is not very surprising that clinical observation has failed to give definite results in this matter. The

difficulties in the way of investigating the relative effect of drugs by any means at the command of the medical practitioner may well be in many cases insuperable. But it is disappointing to find that the drugs which have been proved by direct physiological experiment to be at any rate likely, on the theories of those who propose them, to be of service in hæmoptysis, do not come more distinctly to the front, do not establish a stronger claim to our confidence than the rest. It almost seems as if in this case we could not expect to receive any help from physiology. Happily this is not so. Physiology is at last overcoming the great difficulties in the way of accurate determination of variations in the pulmonary circulation and of their causes; and the results already obtained, imperfect though they be, are of sufficient interest and importance to justify me in bringing them before you to-day.

"The relations between the systemic and the pulmonary circulations in respect of blood-pressure and the other conditions form a large, and it may be a very fertile, province of vascular physiology, which has been almost entirely ignored by medicine, and treated by physiology so slightly that it has yielded but few, if any, results of value to medicine. I do not know any treatise on systematic medicine, any monograph on diseases of the lungs, which contains even a hint that the two systems may be to some extent independent of each other, and may react in different ways to the same stimuli, and in the same way to different stimuli.

"Throughout medicine assumes that indications for the treatment of pulmonary diseases may be taken from the systemic pulse as directly and with as much confidence as in the case of erysipelas or of enteritis. The pulmonary circulation is treated as if it were simply the termination of the systemic venous trunks into which a small additional pump—the right ventricle with its valvular arrangements—has been introduced, with the effect of preventing undue stagnation of the blood-current.

"And this view does contain a half truth. For example, in many cases of long standing and extreme mitral incompetence we can trace, after death, everywhere as we pass backwards against the blood-stream from the left auricle to the large systemic veins, conclusive evidence of the existence during life of undue vascular tension. In the left auricle, pulmonary veins, pulmonary artery, the large systemic veins, in the hepatic veins, we find thickening and opacity of the inner coat of the vessels, in fact, atheroma; and this, too, in cases where the systemic arteries—its most frequent seat

—may be all but free from it. Throughout this tract it would seem that the same condition of undue pressure has prevailed, and that if any forces exist tending to produce inequalities of pressure in different regions they must be very feeble ones. Of course this is an extreme, though not infrequent, case, and cannot be regarded as throwing much useful light upon the state of things in health or even in less severe cases of disease.

"Anyhow, medicine, if it recognises any mechanism in the pulmonary circuit analogous to the vaso-motor arrangements in the systemic side, has not thought it worth while, or has not been able, to make any practical use of such knowledge.

"Now, physiology has not done so much as we might wish, but it has certainly accomplished more than medicine has even attempted. It has taught us the relatively low blood-pressure in the pulmonary artery, and has even succeeded in directly measuring this blood-pressure, with the result of proving that the relation between the pulmonary and carotid pressure varies in different species of animals, being in the rabbit 1 to 4·2; in the cat, 1 to 5·3; in the dog, 1 to 3·05.

"Again, physiology has established the existence in one species—the dog—of vaso-motor nerves, which exercise more or less control over the blood-flow through the pulmonary artery.

"In a valuable paper communicated to the Royal Society in February, 1889, Dr. Bradford, Dr. Dean, and Mr. George Henry Lewes arrived at the following conclusions:—'The pulmonary vessels of the dog are supplied with vaso-motor fibres, leaving the cord through the roots of the uppermost nerves. No efferent vaso-motor fibres have been detected in the vagus nerve.

"'The pulmonary circulation is comparatively independent of the systemic, and alterations in the blood-pressure of the latter must be of large amount to affect the pulmonary blood-pressure. It is probable that no rise of aortic pressure can materially influence the pulmonary blood-pressure, unless it is so great in amount or duration that the heart-muscle and valves are unable to cope with it, and so an actual regurgitation is produced. It is possible that the pulmonary blood-pressure can also be affected by rises of systemic pressure causing venous distension, and hence an increased supply to the right side of the heart.

"'Finally, although it is undoubted from the results of this research that the mammalian pulmonary vessels receive

vaso-motor nerves, yet it is probably that the vaso-motor mechanism is but poorly developed as compared with that regulating the systemic arteries. In this respect it may be that the pulmonary system holds an intermediate position between the systemic arteries on the one hand and the veins on the other.'

"The experiments on which these conclusions rest are also interesting from other points of view. I will mention one which has a close connection with my present purpose. 'When the peripheral end of such a nerve as the sixth or seventh dorsal is excited, a rise of pressure in both the pulmonary and aortic system is observed. The pulmonary rise, although considerable—for example, 3 or 4 mm. Hg.—is not out of proportion to the aortic rise, which, with these nerves, may be as much as 30 or 40 mm. Hg. On ascending, however, very different results are obtained. Thus in one case the fifth dorsal gave an aortic rise of 10 mm. Hg. only, but the pulmonary rise was 3 mm. Hg.

"'Clearly the latter was not a passive effect of the former.

"'In another case the fourth dorsal gave an aortic rise of 20 mm. Hg. and a pulmonary rise of 4 mm. Hg. Perhaps, however, the most marked and conclusive result is seen with the third dorsal nerve. This nerve frequently causes no aortic rise, and, indeed, sometimes actually a fall—for example, 10 mm. Hg.; but in both these cases there is a distinct pulmonary rise of 3 or 4 mm. Hg.'

"Thus far, then, we have learnt:—1. That the pulmonary circulation, like the systemic, is to a certain extent under the control of vaso-motor nerves. 2. That the two vaso-motor systems are closely connected with each other, inasmuch as direct irritation of the same nerve or of the same part of the spinal cord produces a simultaneous effect on both sets of vessels. 3. That this effect may be either a rise or a fall in pressure in both, or a rise in one and a fall in the other. The next step was to ascertain whether the effect of certain drugs is the same for each upon the two circuits. The facts just mentioned make it, to say the least, highly probable that this is not the case, but the question could only be answered satisfactorily by direct experiment.

"Through the kindness of Dr. Bradford, of University College Hospital, and of Dr. Bokenham, assistant to my colleague, Dr. Lauder Brunton, in the science workroom of St. Bartholomew's Hospital, I am enabled to lay before you the following statements as to the comparative effect of certain substances upon the two circulations. Their researches

were carried on entirely independently of each other, and yet their results are practically identical.

"*Muscarin.*—In the *British Medical Journal* for November 14th, 1874, Dr. Lauder Brunton gives the following account of the action of muscarin on the heart. Having thoroughly narcotised a rabbit with hydrate of chloral, he commenced artificial respiration, and opened the thorax. Both sides of the heart seemed to be equally filled, the veins only moderately distended, and the lungs rosy. On injecting a little muscarin into the jugular vein everything at once changed. The lungs became blanched, the left side of the heart became small, the right side swelled up, and the vena cava became greatly distended. After a short time a little atropine was injected into the jugular vein, and everything instantly returned to its normal condition. The left side of the heart regained its former size, the right side diminished, the distension of the veins disappeared, and the blanched lungs again assumed a rosy hue. Distrusting his own personal observation, Dr. Brunton got two observers who knew nothing about the experiment and repeated it before them, noting down their observations, which agreed exactly with his own. It is all but impossible, I think, either to doubt the accuracy of the record of this experiment or to attribute the phenomena observed, especially the simultaneous distension of the pulmonary artery and the blanching of the lungs, to any other cause than the action of vaso-motor nerves. Subsequent observers seemed to have failed to obtain the striking effect witnessed by Dr. Lauder Brunton, but his account is substantially confirmed by Dr. Bokenham, who tells me that muscarin in a small dose causes rapid fall in the carotid pressure, with, in most cases, a rise in the pulmonary pressure. This rise, however, is not long maintained. The pressure in the pulmonary artery sinks to normal, whilst that in the carotid more slowly rises to its original level. A large dose seems to produce paralysis of the heart and rapid fall of pressure in both circuits.

"*Amyl Nitrite* given by inhalation caused rapid fall in carotid pressure, with simultaneous marked rise in pulmonary pressure. Carotid pressure then rises, and during this rise the pulmonary pressure resumes its original level.

"*Nitro-glycerine.*—In the cat $\frac{1}{50}$ gr. produced a temporary great fall of the carotid, with a slight rise of the pulmonary pressure. When, however, the carotid fall had reached its lowest point the pulmonary pressure also fell. The carotid pressure then rose, but not to the normal figure. At the

beginning of this rise the pulmonary pressure showed some tendency to fall, but remained nearly constant. In the dog $\frac{1}{50}$ gr. produced a primary fall in the carotid, with little or no effect on the pulmonary pressure. A subsequent gradual rise of the carotid pressure then took place, with a very slight fall of pulmonary pressure during the greater part of the rise.

"*Digitalis.*—Digitalin caused steady rise of blood-pressure both in carotid and pulmonary arteries, with great slowing of pulse. Tinct. Digitalis: In dogs, slight fall in carotid pressure following soon after injection. At this time practically no effect on pulmonary pressure. Following this a steady rise in both pulmonary and carotid blood-pressure. Inf. Digitalis: In cats, primary rise in blood-pressure both in carotid and pulmonary arteries, followed by slight but more permanent rise. (The primary rise here was probably due to the fact that a large quantity of fluid had to be introduced, as the same result followed the injection of a similar quantity of water.)

"*Tinct. Strophanthi.*— In cats, a small dose (namely, ♏j —♏ij) produced a primary fall of pressure in both carotid and pulmonary arteries, and a subsequent rise in pressure almost up to normal; Heart at same time slow and irregular. A large dose produced first a great rise of carotid pressure, the pulmonary pressure sinking slightly at first and then rising slightly. Then great quickening of heart with steady fall of pressure in carotid; the pulmonary falling to, but not below, its original level.

"*Ergot* produces primary rise in pulmonary, with simultaneous fall in carotid, pressure. This rise, however, is of short duration. Subsequently both pressures rise.

"*Aconite* produces fall in pressure in both carotid and pulmonary arteries.

"*Strychnine,* in both carotid and pulmonary arteries, produced a rise in pressure especially marked in the pulmonary.

"*Chloroform.*—Both pressures fall together.

"*Ether.*—Both pressures rise together.

"*Atropine* (*Sulphate*) produces first a steady fall in carotid pressure, the pulmonary sinking at the same time, but in much less degree. During this period the heart is slowed and the vagus nerve is excitable. Next pressure rises in both, and pulse becomes more frequent, the inhibitory power of the vagus being gradually abolished. When the pressure reaches its highest point, the heart cannot be stopped by stimulation of the vagus, and a second dose of atropine will have no further effect.

"*Quebracho* (*Tincture*) produces in carotid a primary fall, in pulmonary a slight rise, followed in the carotid by a steady rise to a higher point than normal, whilst in the pulmonary artery the higher level already reached is maintained; finally, in the carotid the pressure becomes very great, whilst in the pulmonary artery it does not rise above the slightly higher level it reached at first.

"In the graphic records of these experiments there are many things of great interest, but, from lack of time, I have confined myself to one point only, namely, the pressure relations of the two circuits to each other; and it is clear that in some cases these relations, under the influence of the same drug, vary in a manner which could scarcely have been ascertained without the aid of direct experiment. It is difficult to arrive at any classification of them beyond this; that, if the systemic pressure rises, then the pulmonary pressure also rises; if the systemic pressure falls, then the pulmonary may either rise or fall. And even this is only true of the primary effect of the drug, for among the latter effects, for example, in the case of amyl nitrite, and to a less extent in that of nitro-glycerine, the pressure in the pulmonary artery may fall whilst that in the carotid is rising.

"Again, although it might be impossible from these pharmacological researches alone to prove the existence of pulmonary vaso-motor nerves, still, given the fact that such nerves do exist—and this has now been established—then some of their results seem to find their best, perhaps only, explanation on the vaso-motor nerve theory. Of course, in the production of these variations of pressure, vaso-motor influence is not the only one at work. They may be due, for example, to increased force on the heart's action, or to causes as purely mechanical as anything can be which takes place within a living organism, as, for example, when a block in the aorta raises the pulmonary pressure, whilst a block on the right side of the heart, or in the lungs, lowers the systemic pressure. Still, the knowledge that certain condition of pressure in the pulmonary circuit may be determined by the administration of certain drugs, even though we may be left in ignorance of the exact mode in which this effect is brought about, may be of great value.

"But before attempting to appraise the value to medicine of physiological (pharmacological) researches such as these, I have a mournful duty to perform. I must say "good-bye" to my trusty physiological guides, who have already fallen a little behind, and decline to go with me any further. They

tell me—and from the point of view of their science it is their plain duty to do so—that we have no right to assume that the results of experiments on animals, performed under conditions very different from those of healthy life, would hold good in the case of man; that no scientific proof of the existence of pulmonary vaso-motor nerves in the human subject has been given, and that it is very unlikely that such proof ever will be given. Thus it is difficult to imagine a more perfectly unscientific proceeding than to attempt to arrive at indications for treatment by virtue of assumptions which have no scientific basis whatever. That to do so is to step from the rock on to, and into, the quicksand. Well, until physiology holds out to us a more hopeful prospect than this, and more effectual aid than she does now, the path of our duty leads straight through the quicksand. We must make the most careful and the best use of the data, such as they are, which we possess; and may then, after all, entertain good hopes that the conclusions which we may come to, although, logically, they must always remain probable only, may yet be true.

"My evidence in the matter is prejudiced; personally, I confess that I should like to have myself a vaso-motor pulmonary arrangement with the latest improvements up to date. Such a mechanism, if it exists, must be a great comfort and advantage to its possessor. It would regulate, from the most favorable standpoint, the supply of blood to the left side of the heart, meeting and satisfying the various and ever-varying needs of the organism with the right quantity of freshly aërated blood, and at the same time safeguarding the delicate tissue of the lungs from the dangers which wait upon congestion. For when, as must often happen, the blood accumulates to more or less excess in the pulmonary circuit and in the great systemic venous trunks, then the action of pulmonary vaso-motor nerves would, *pro tanto*, tend to transfer the increase of pressure from the former to the large veins of the trunk, and to easily distensible organs such as the spleen and liver.

"In support of this, let me refer you again to Dr. Lauder Brunton's experiments with muscarin, which prove that—at all events, in some of the lower animals—a mechanism exists which is capable of accomplishing a great deal in the direction of relieving the pulmonary veins and capillaries from undue pressure. Of course, this line of argument—a very tempting one to some people—is utterly worthless, and if no other and better proof can be adduced, the case must be given up. Such an argument, however, may be found in

the fact that pulmonary vaso-motor nerves of more or less activity have been demonstrated in the dog—that is, certain nervous arrangements have been found to exist in that animal in connection with the function of respiration, a function necessary to life and carried on by very similar mechanism in many thousands of species. Is it not highly probable that this same nervous mechanism exists in all, or almost all, animals whose respiratory apparatus is similar and their type of development not inferior to that of the particular species in which its existence has been demonstrated?

"So far as man is concerned, the argument gains additional strength; its conclusion attains to a higher degree of probability when we remember that it is impossible to doubt the existence in him of systemic vaso-motor nerves at least as fully organised, as richly endowed, as those which have been demonstrated in lower animals by direct experiment, and to which in man, as in the dog, a pulmonary vaso-motor system would be a fitting complement. Surely there is uniformity in organic not less than in inorganic nature, a uniformity which enables us to forecast with confidence the existence of similar functions and structures in animals specifically or generically allied.

"I have no wish to deny that conclusions arrived at by such a process are, after all, only probable, but their probability is eminently reasonable if due care be taken in the verification and use of the facts on which they rest; the argument must start from facts, recognised as such by science, and not from mere hypotheses. In this way we may hope to maintain the wholesome and necessary relations between medicine and physiology, for it will be an evil day for both if ever the results of laboratory work are held to have no bearing upon medical practice.

"The not improbable hypothesis that pulmonary vaso-motor nerves exist in man may be used to explain some otherwise puzzling facts in connection with disease of the heart, and especially of the mitral orifice. Cases are met with not infrequently to which the primary seat of the obstruction to the blood-flow is on the left side of the heart, and there is no evidence of anything wrong on the right side. At the same time the cervical veins are distended, there is a certain amount of general anasarca, and exaggerated loudness of the second sound of the heart in the second left intercostal space makes it probable that there is undue pressure in the pulmonary artery. And yet the lungs, in whose veins and capillaries the effects of the cardiac difficulty must, one would

think, be first felt, show but slight, if any, signs of congestion.

"No doubt many explanations might be given of this state of things, but none meet the conditions of the problem more exactly than contraction of the pulmonary arterioles under some vaso-motor influence. Indeed, so far as the vessels are concerned, we may fairly compare the effect on the pulmonary artery of obstruction on the left side of the heart with that of cirrhosis of the kidneys on the systemic arteries.

"There is one conclusion to be drawn from the results of the pharmacological researches just laid before you which is of no small practical interest. If it be true, to use the statement in one of the best monographs on diseases of the lungs, that "it is of great importance to relieve blood-pressure in hæmoptysis," then aconite ought to be a much more efficient remedy for that affection than ergot.

"On this occasion, your Harveian Orator enjoys great latitude in the choice of subjects and in his mode of treating them. I trust that in your judgment I have not abused that privilege. The relation of physiology to medicine, at all times a matter of supreme importance to our profession, is especially so at present, when from the rapid scientific development of physiology the two lines of study are year by year becoming more and more widely separated, not to say antagonostic—a state of things which is distinctly injurious to the scientific claims of medicine. The remedy is in our own hands; it is our duty now more than ever to work out and to utilise to the utmost the medical aspects of each fresh physiological advance, and we must bring our best powers to this task.

"I have ventured to bring under your notice the 'conditions of the pulmonary circulation' as a subject in which much yet remains to be done by physiology, and from which medicine may hope to derive no little benefit. Let me add that the results of such a research may be great or small, but until they have been realised by science, and have found their place in medicine, Harvey's labours will not have yielded up their full fruit."

IMPORT TRADE IN LIVE STOCK AND DEAD MEAT.

"SOME features of the import trade in live stock and dead meat are worthy of notice. The recent legislation in the United States, which has been interpreted as intended to bring pressure upon the Government of this country anent the proposed relaxation of restrictions so far as to admit store cattle from that source, is a ridiculous farce. We now admit dead meat from the United States and all other countries; also living cattle from the United States and from some other countries; also store cattle from Canada and Scandinavia. How far this is wise remains to be proved. Meanwhile, we have learned from the action of the United States, Germany, and Holland that a traffic in living animals is not at all essential to a supply of dead meat, because when the one is stopped the other begins; and, as a broad fact, the supply of dead meat from all sources is fast outstripping all previous equivalents in live stock. We have had in one shipment a "frozen flock" numbering 51,479 mutton carcases from the river Plate, and more recently one of 48,706 mutton carcases, 1051 lamb carcases, with a lot of legs of mutton, from New Zealand; and during the past ten months we have received 1,413,594 cwt. of fresh mutton—frozen and otherwise, but foreign-killed—as against 979,790 cwt. same time in 1889 and 812,958 in the corresponding period of 1888. Of fresh beef the statement given by the Board of Trade shows that in the ten months of 1890 ended with October the receipts have been 1,536,360 cwt., as against 1,097,497 cwt. in the corresponding period of 1889, and 673,787 cwt. same time in 1888, very heavy receipts having come to hand in October and are still continuing. Last week the meat supply from across the Atlantic was very heavy at Liverpool, nineteen steamers having landed 5901 cattle and 18,513 quarters of refrigerated States beef. It is stated that 'several companies are in process of formation in Queensland to push the export of foreign beef to the United Kingdom,' and that a deputation of gentlemen 'all largely interested in the trade' have waited upon Mr. Stanhope at the War Office to induce him to relax the present regulations which prohibit the use of frozen beef in the Army and Navy services—a patriotic deputation indeed! However, with it all, there comes the question which our breeders and feeders may do well to consider, namely, What can the United States do with their surplus meat, alive and dead, if we do not take it? How

much of it can they find a market for outside the United Kingdom? Very little, and that little chiefly as canned goods! Salted barrel pork from the States does not come within the question at issue, but that and bacon has undoubtedly driven pigs and fresh pork out of our markets to a degree not generally recognised. Fresh pork imported during the past ten months has been only 29,177 cwt., against 105,683 cwt. corresponding period in 1889, and 180,747 cwt. same time in 1888; whilst the import of live pigs, during the same period, has been 3947 head, as against over 21,000 head in the corresponding periods of the two preceding years. On the other hand, salt pork has barely held its own on a large scale, whilst bacon and hams have been imported in very largely increased quantities. This cured 'hog product' comes from abroad; whilst we might increase our home 'product' of this article more easily and profitably than that of any other form of meat if the country were free from disease. Rough weather has caused much suffering to the animals crossing the seas, and a case has transpired in which a number of sheep were found dead and dying from 'sweating' in a large cargo shipped from Iceland to Liverpool last month."—*Live Stock Journal.*

INSPECTION OF CATTLE AND SHEEP FOR EXPORT FROM THE UNITED STATES.

"We have been asked to publish the following:—

"U. S. Department of Agriculture, Office of the Secretary,
"Washington, D.C., *October* 20*th*, 1890.

"The following order and regulations are hereby made for the inspection of neat cattle and sheep for export from the United States to Great Britain and Ireland and the Continent of Europe, by virtue of the authority conferred upon me by Section 10 of the Act of Congress approved August 30th, 1890, entitled 'An Act providing for the inspection of meats for exportation, prohibiting the importation of adulterated articles of food or drink, and authorising the President to make proclamation in certain cases, and for other purposes.'

"1. The Chief of the Bureau of Animal Industry is hereby directed to cause careful veterinary inspection to be made of all neat cattle and sheep to be exported from the United

States to Great Britain and Ireland and the Continent of Europe.

"2. This inspection will be made at any of the following-named stock-yards:—Kansas City, Mo.; Chicago, Ill.; Buffalo, N.Y.; Pittsburgh, Pa.; and at the following ports of export, viz.: Boston and Charlestown, Mass.; New York, N.Y.; Philadelphia, Pa.; Baltimore, Md.; and Norfolk and Newport News, Va. All cattle shipped from any of the aforesaid yards must be tagged before being shipped to the ports of export. Cattle arriving at ports of export from other parts of the United States will be tagged at said ports.

"3. After inspection at the aforesaid stock-yards, all cattle found free of disease and shown not to have been exposed to the contagion of any contagious disease, will be tagged under the direction of the veterinary inspector in charge of the yards. After tagging, the cattle will be loaded into cleaned and disinfected cars, and shipped through from said yards, in said cars, to the port of export.

"4. All animals will be re-inspected at the port of export. All railroad companies will be required to furnish for the transportation of cattle and sheep for export, clean and disinfected cars, and the various stock-yards located at the ports of export shall keep separate clean and disinfected yards for the reception of export animals only.

"5. Shippers will notify the Veterinary Inspector, in charge of yards, of intended shipments of cattle, and will give to the said inspector, when possible, the name of the locality from which said animals have been brought, and the name of the feeder of said animals, and such further and other information as may be practicable for proper identification of the place from which said animals have come.

"6. The Inspector, after passing said cattle, and tagging the same, will notify the Veterinary Inspector in charge of the port of export of the inspection of said animals, giving him the tag numbers, and the number and designation of the cars in which said animals are shipped.

"7. Export animals, whenever possible, shall be unloaded at the port of export from the cars in which they have been transported directly at the wharves from which they are to be shipped. They shall not be unnecessarily passed over any highway or removed to cars or boats which are used for conveying other animals. Boats transporting said animals to the ocean steamer must be first cleansed and disinfected under the supervision of the Veterinary Inspector of the port, and the ocean steamer must, before receiving said

animals, be thoroughly cleaned and disinfected in accordance with the directions of said Inspector. When passage upon or across the public highway is unavoidable in the transportation of animals from the cars to the boat, it must be under such careful supervisions and restrictions as the Veterinary Inspector may, in special cases, direct.

"8. Any cattle or sheep that are offered for shipment to Great Britain or Ireland, or the Continent of Europe, which have not been inspected and transported in accordance with this order and regulations, will not be allowed to be placed upon any vessel for exportation, as they will be deemed, under the law, to have been exposed to infection so as to be dangerous to other animals.

"9. The supervision of the movement of cattle from cars and yards to the ocean steamer at the ports of export will be in charge of the Veterinary Inspector of the port. No ocean steamer will be allowed to receive more cattle or sheep than it can comfortably carry. Over-crowding will not be permitted.

"10. The Veterinary Inspector at the port of export will notify the collector of the port of the various shipments of cattle or sheep that are entitled to clearance papers, and certificates of the inspection of said animals will be given to the consignors for transmission with the bills of lading.

(Signed) "J. M. Rusk, *Secretary.*"

—*Live Stock Journal.*

TECHNICAL EDUCATION OF FARRIERS.

"The annual dinner of the Livery of the Worshipful Company of Farriers was held, in accordance with the terms of the charter of Charles II, on Lord Mayor's Day, under the chairmanship of the Master (Mr. Barnes Wimbush, M.A.). The dinner took place in the large hall of the Albion Tavern, which was gaily decorated with the banners and other insignia of the Company, and which was filled with the assembled liverymen and their guests.

"After dinner the *Master* proposed the usual loyal and patriotic toasts, which were duly honoured.

"*Mr. S. C. Macaskie* proposed the toast of the 'Worshipful Company of Farriers,' speaking in high terms of the new departure which it had just taken in starting an organistion for the national registration of farriers as shoeing-smiths.

"The *Master*, in reply, referred to the early history of the Company and its recent efforts to advance the craft whose name it bore; and detailed the steps which it had taken during the past year, in conjunction with the Royal Agricultural Society of England and the Royal College of Veterinary Surgeons, to frame a workable scheme for the registration of shoeing-smiths and the general advancement of the art of farriery. In recognition of the valuable assistance which had been rendered by the Royal Agricultural Society in bringing this scheme to a successful issue, the Court of the Guild had conferred upon Lord Moreton, the president of the society, and upon Mr. Ernest Clarke, the secretary, the honorary freedom of the company. Lord Moreton, who had fully intended to be present, was, at the last moment, unfortunately prevented from leaving home by a severe cold; but they were glad to welcome there that night their friend and now brother farrier, Mr. Clarke, to whom he had the pleasure of handing the certificate of his honorary freedom of the Guild.

"The *Master* then, amidst cheers, presented Mr. Clarke with a handsomely framed certificate of freedom, with the Company's arms carved on the frame; and he afterwards enrolled as ordinary members of the Company the two first-prize winners at the (Royal) Society's horse-shoeing competition at Plymouth last June, viz. Samuel Batten, of Furnham, Chard, and Walter Winslade, of North Petherton, Bridgwater.

"*Mr. Ernest Clarke*, after thanking the Livery for the very handsome compliment that they had paid him in conferring upon him the honorary freedom of their distinguished and worshipful Guild, said that the registration committee, with whose health his name had been coupled, had a very onerous and laborious task before them, in the accomplishment of which they would need the assistance of horse-owners and horse-lovers all over the country. The much-needed improvement in the art of farriery was not to be accomplished by a number of gentlemen sitting in conference at a table—round or square; it was not to be accomplished by the sending out of the thousands of circulars referred to by the Master; it was only to be accomplished by the active and sympathetic support of all concerned in the welfare of horses, whether as owners, grooms, or shoeing-smiths. He was much struck by the remark made by a practical farrier at their meeting held in the Mansion House on the 2nd June last, that even if the smith wanted to shoe a horse upon scientific principles, the groom often-

times insisted upon the shoeing being done according to his own ideas of what was right. From what he had heard since, he had reason to believe that there was a great deal of truth in this. It behoved owners, therefore, to give personal attention to this matter, and to see that their horses were shod on proper principles by skilled and properly certificated farriers. The scheme which had been settled, after careful conference by three representative bodies representing the professional, the agricultural, and the trade aspects of the subject, was now before the country; and he was delighted to know that applications had already been received for registration from no less than thirty-three different counties. This showed that their leaven was already at work; but it would take a long time before it leavened the whole lump, unless those interested in the subject would take it up, each in his own district, and make widely known the advantages of the scheme—immediate and prospective. Everyone now recognised that the important art of farriery was in a very backward state in this country. Great injury was done to horses, and severe loss occasioned to owners from careless shoeing. There was much talk at the present moment about technical education, and the different County Councils were now deliberating to what purpose they should apply the money which the Government, through the failure of their licensing legislation, had made over to them for the purpose. He conceived the teaching of proper methods of horse-shoeing to be at least as laudable an object to which to apply this money as many of the schemes that were being put forward. He had recently paid an official visit to Austria, and he found there not only a great number of agricultural schools, at which, amongst other things, horse-shoeing was taught, but twenty-two travelling lecturers on elementary veterinary medicine and horse-shoeing, who perambulated the country, giving lectures in rural districts at the expense of the State or other authorities. He saw no reason why something of the same kind should not be attempted in this country under the auspices of their Guild, and with the financial assistance of County Councils and other bodies. The Royal Agricultural Society of England, which he had the pride and privilege to represent, was proposing to continue at its show at Doncaster next year the series of horse-shoeing competitions which had been followed with so much keen interest throughout the country; and it could not be doubted that with the continued support of that large and influential institution, and of the Royal College of Veterinary Surgeons, the Worshipful Company might fairly

and reasonably look forward with assured confidence to the ultimate complete success of the scheme which had been so happily inaugurated.

"Subsequently the *Master* announced that the Court had decided to give, as before, the freedom of the Guild to each winner of the first prize in the two competitions for hunters and agricultural horses, which would be held at the Royal Show at Doncaster next June; and that the registration committee had also undertaken to admit free of charge all the ten winners of prizes at the competition, and all competitors commended by the judges, to the official 'Register of Farriers as Shoeing-smiths,' on the necessary formal application being made to the Company."—*Live Stock Journal.*

THE REGISTRATION OF FARRIERS.

"It was but natural that the speeches which were delivered after the Worshipful Company of Farriers and their guests had dined, on Monday last, should, to a great extent, deal with the registration scheme which has gradually been maturing. The Company of Farriers has doubtless always been given to the practice of hospitality; but, as it does not at present possess a hall of its own, and as, owing to some reason or other, it had no very heavy duties to perform, the Company in question was heard of less frequently than some of the other City guilds. The time came, however, when the Company resolved to make a praiseworthy attempt to place the shoeing of horses upon a more satisfactory footing than it had formerly rested on; and it has at present every reason to be satisfied with the result. It was fortunate in finding such coadjutors as the Royal Agricultural Society and the Royal Veterinary College; and it is scarcely taking a too optimistic view of the situation to say that farriers, horses, and those who own horses are likely to benefit very materially from the new departure. Those interested in the subject will remember that, just about a year ago, the Farriers' Company passed a resolution requesting their master to arrange for a conference with the two societies, at which might be considered the best means to promote the art of horse-shoeing. A month later the proposed conference took place, a draft scheme drawn up by the company having, in the mean time, been approved by the two other bodies. The next step was for a sub-committee, made up of nine persons, three from each body, to consider the scheme and

report upon it. With commendable promptitude the sub-committee sat and reported; they did not advise the adoption of the original scheme *en bloc*, though the suggested alterations were of a minor character only. At the outset it was found that there was something in a name. The veterinary surgeons of England, after having their souls greatly vexed by the number of noodles who dubbed themselves members of the veterinary profession, managed to procure the passing of the Veterinary Surgeons Act of 1881. The sub-committee pointed out that the word farrier might be confounded with veterinary surgeon; and that "registered farrier" might be taken to mean persons qualified to treat the diseases of animals, and so to infringe the provisions of the aforesaid Act. For the purposes of the new scheme, therefore, the men who shoe horses are called shoeing-smiths. The Plumbers' Company, it may be recollected, obtained no end of *kudos* when they resolved to register the men following the calling they fostered. The householder was in raptures. No longer would pipes recurrently burst; no longer would the plumber be an object almost of hatred. On the contrary, all our domestic repairs would be executed by a nice young man educated on scientific principles, and having his diploma in his pocket.

"The Farriers' Company and the two co-operating societies have to a certain extent followed the example of the Plumbers' Company, and will register shoeing-smiths; but the whole scope of the scheme is to examine, to register, to instruct, and to assist in apprenticing. The most conservative person, be he farrier or what not, can scarcely find fault with a plan so moderate in its proposals, while yet sufficiently inclusive to work no end of good. We print elsewhere a notice of the dinner of Monday last, and it is there told how, in recognition of services rendered, the honorary freedom of the company was conferred upon Mr. Ernest Clarke, the secretary of the R.A.S.E. Distinction was also in store for the winners of the first two prizes at the Royal Agricultural Society's horse-shoeing competition at Plymouth in June last, as Messrs. Batten and Winslade were enrolled as ordinary members of the Farriers' Company. This membership of a venerable institution will be greatly valued by the above-named smiths; and the Yorkshire horse-shoers will no doubt be interested to learn that at next year's show at Doncaster there will be two shoeing competitions, one for hunters and one for agricultural horses. The winning of the first prize in either of these classes will carry with it the freedom of the Company, which will be presented free of

cost to the fortunate shoeing-smiths. Honours like these will conduce not a little to the stimulation of the body of farriers throughout England. We may be wrong, but we imagine that the membership of an old city company, and the being on the register, are circumstances which, among others, will tend to add dignity to the smith's calling. Those, however, who would register themselves on easy terms would do well to be prompt in so doing; as, after January 1st next, no farrier or shoeing-smith will be registered who cannot pass an examination both theoretical and practical. Prior to that date, all men, whether masters or journeymen, who have been in the trade before the opening of the register, may be placed upon it after satisfying the company of their fitness to be so registered. Machinery will be organised for the instruction of those who desire to learn the higher branches of their art; while provincial committees will watch over the working of the scheme in distant places, and though they will have one eye for the interests of the farrier, they will use the other in detecting what is wrong, for it is a part of their duty to report at once to the Registration Committee particulars of misconduct on the part of any of the registered men.

"Now in their attempts to promote the art of horse-shoeing, the Farriers' Company and their allies are in the position of those who bring a horse to the water. To make him drink is not in their power. They cannot compel registration, nor can they force horse-owners to employ a registered man in preference to one who is not registered. It will thus be seen that the exertions, the organising, and the expenditure of experts may be nullified by the apathy of the general public, very many of whom are totally ignorant of the elements of farriery. But the more thoughtful among the horse-owning public can do much for the proposed scheme. As a preliminary, a small donation towards the expense necessarily incurred would be capital evidence of good faith, and would indicate that the donor's heart is with the movement. Then, as a purely selfish precaution, preference might well be given to registered men, whose duties would probably be discharged with far greater efficiency if they were not interfered with by their customers' grooms, whose ideas of shoeing are not invariably correct. There is all the more reason to hope for and expect success to attend the new departure, because the Registration Committee have already excellent raw material, if the term may be allowed, to work upon. The majority of shoeing-smiths in London and in the provinces are exceedingly clever workmen; and,

when they are not made to work against time, the shoes they turn out will bear critical examination. Moreover, it is not every blacksmith who goes in for paring the sole, cutting away the frog, and committing other outrages on a horse's foot. At the meeting held in the Mansion House some time ago, Mr. Cohen made a manly defence of the farriers by protesting against the habit of associating all that was ignorant and wrong in the matter of horse-shoeing with blacksmiths. Mr. Cohen, like many others of our readers, frequently rides and drives away from home, and stated that he did not find that entrusting his horse to a strange smith involved his being lame the next day. But the average smith being such a good workman, though not perhaps versed in the anatomy of the horse's foot, would be a very valuable man when to his skill in turning out shoes he superadded a little technical knowledge, an acquaintance with other systems of shoeing, and the effect of heavy shoes on a horse's action. If the abolition of fads is brought about by the registration scheme, that alone will be a great work; while the horse himself—that willing servant of ours who cannot complain—will certainly travel more comfortably than he ofttimes does at present in that happy time when none but competent men shall have the handling of his feet."—*Field.*

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD NOVEMBER 25TH, 1890.

At a special meeting of the Council of the Royal College of Veterinary Surgeons held November 25th, 1890, the President (Professor McCall) in the chair, the Council voted a sum of £250 with the view of testing the value of Dr. Koch's treatment of tuberculosis as applicable to animals affected with that malady. It was resolved that a new Charter should be applied for.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Monthly Council, Wednesday, November 5th, 1890.
The Earl of Ravensworth, President, in the chair.

Premiums to Thoroughbred Stallions.

A lengthy discussion on this subject took place, during which the *Earl of Coventry* moved, and the *Earl of Feversham* seconded, "That a grant of £600 be made out of the funds of the Society for the purpose of providing three premiums of £200 each to thoroughbred stallions for the forthcoming year in District E (Yorkshire), in which the annual show of the Society will be held in 1891, subject to the understanding that all other expenses connected with such stallions are borne by the Royal Commission on Horse Breeding."

Eventually *Lord Coventry's* motion was put to the vote, and carried by thirty-one votes to two.

Veterinary Committee.

Sir John Thorold (Chairman) reported that in obedience to the instructions given by the Council at their last meeting, circular letters had been addressed to all the members of the Society asking their co-operation in carrying out the provisions of the Pleuro-pneumonia Act, and also to the Society's provincial veterinary surgeons, requesting that immediate notice of any outbreak of the disease coming to their knowledge should be given by telegraph to the Society's offices. The Secretary had submitted a quantity of correspondence which had since been received on the subject, and had reported that particulars of every outbreak notified had been at once forwarded to the Board of Agriculture. The Committee had discussed the question of foot-rot in sheep, which arose at the last meeting of the Council. Professor Brown having stated that there was great difficulty in getting diseased animals, some of the members of the Committee had offered to obtain two or three sheep virulently affected with the disease, for the purpose of further experiment at the Royal Veterinary College. The Committee recommended that prizes be offered for a horse-shoeing competition at Doncaster, in two classea, limited to the county of York, as follows:

Class 1.—Hunters: £6, £4, £3, £2, £1.

Class 2.—Agricultural horses: £6, £4, £3, £2, £1.

The Master of the Farriers' Company had expressed the desire of the Company to provide as before the first two prizes, and to award to the winners of these two prizes the freedom of the Company. Mr. Vessey, the Society's provincial veterinary surgeon for Dorset, having removed from that county, the Committee recommended that Mr. C. Hedworth Golledge, of

Sherborne, be appointed to the vacancy. Professor Brown's pamphlet on "Dentition" being out of print, the Committee recommended that a new edition be prepared, with any revision which the Professor might think necessary.

Professor Brown had presented the following report:

Pleuro-pneumonia. — Between September 1st, when the Pleuro-pneumonia Act of 1890 came into force, and November 1st, a period of nine weeks, eighty fresh outbreaks of this disease have occurred in Great Britain. The counties in which these took place were—Chester, Derby, Essex, Hunts, Lancaster, London, Middlesex, Norfolk, Salop, Stafford, Surrey, York (North and West Ridings), in England; and Aberdeen, Edinburgh, Fife, and Forfar, in Scotland. In addition to the cattle slaughtered in the above counties, a number which had been exposed to the risk of infection were slaughtered in the counties of Lincoln and Northampton.

The total number of cattle slaughtered by order of tho Board of Agriculture since the Act came into operation has been about 3250; this includes not only the diseased cattle and those in contact with them, but also some that were suspected, which it was deemed expedient to slaughter. In Ireland there have been twenty-eight outbreaks of pleuro-pneumonia since the beginning of September, two in the neighbourhood of Drogheda, the remainder in the Dublin district.

Anthrax.—During the thirteen weeks from the beginning of August to October 25th, there have been twenty-eight fresh outbreaks of this disease in England, in the counties of Berks, Cornwall, Derby, Dorset, Kent, Lincoln, Norfolk, Northampton, Notts, Somerset, Stafford, Sussex (East), York (North Riding), and York (West Riding). The number of animals attacked was 177. Of these diseased animals one was killed, 119 died, and twenty-nine recovered. No case of anthrax was reported in either Wales or Scotland.

Swine Fever.—There were 1525 fresh outbreaks of this disease reported in Great Britain during the thirteen weeks ended October 25th; 7498 swine were attacked, 3336 diseased pigs were killed, 3264 died, 1111 recovered, and 434 remained alive at the date when this return was made up.

The Department of Research and Comparative Pathology is now in working order. In the laboratory, during the past three months, the undernoted subjects have received attention, and most of them are yet under investigation, viz.:

Milk from tuberculous cows.
Tumours: suspected actinomycosis.
Tumours, cystic.
Tuberculosis in the horse.
Tuberculosis in cattle.
Pyæmic abscesses in cow's liver.
Pleuro-pneumonia; contagious and septic.
Anthrax in cows.
Foot-rot in sheep.
A form of tuberculosis in the kangaroo.

Earl Cathcart was exceedingly glad that the Veterinary Committee had taken up the subject of foot-rot in sheep, with a view

of ascertaining its contagious character. The Americans took a a very serious view of that troublesome disease; it was one of their scheduled diseases. Only the other day Sir James Paget had made the observation that "the medical practitioner must be a student as long as he lives. He goes on or he goes back." That observation eminently applied to veterinary science.

Mr. Pell, in reference to pleuro-pneumonia, drew attention to a fact which they had lately ascertained in Northamptonshire, and which he considered ought to be made public. A number of beasts affected with pleuro-pneumonia were known not to have been in contact with the disease since May 8th last, showing that the disease had been latent in those animals for five months—not even that period being sufficient to render the cattle safe from it.

Stock Prizes Committee.

Mr. Sanday (chairman) reported that the Committee had arranged a preliminary prize sheet for the Doncaster meeting, which would be printed and sent out to each member of the Council before the December meeting, when the Committee would bring up a formal motion for its adoption. Professor Brown and Mr. Duguid had attended the Committee for the purpose of giving any necessary explanations as to the disqualification of pigs at Plymouth under the dentition test. After consideration of the general question, the Committee resolved unanimously that no alteration in the existing rules or practice should be made.

CENTRAL VETERINARY MEDICAL SOCIETY.

The Annual Dinner of this Society took place at the Holborn Restaurant, London, on November 6th, when about forty Fellows of the Society and friends were present.

Mr. F. G. Samson took the Chair, and a very enjoyable evening was passed.

Previous to the social gathering some routine business was done, and the President (Mr. F. G. Samson) gave his Inaugural Address, as follows:

Gentlemen,—I have first to thank you for the honour you have conferred upon me in electing me as President of this, the Central Veterinary Medical Society. I deeply feel the responsibility of the situation, and consider it a great compliment. My earnest endeavour shall be to carry out the duties pertaining to this important position to the utmost of my power, and to earn the esteem and good fellowship of those with whom I shall act. At the same time I am not backward in asking the assistance of not only the late President, but also of all the members, as only with

your combined energy and devotion can I hope to have a good session and maintain the reputation of the Society, and thus be the means of upholding the profession. Such associations as this vary considerably, having times of general activity and prosperity, and times of depression and laxity. These depend a great deal upon the attendance of the members, therefore I sincerely urge you, one and all, to not only attend regularly, but to be punctual, so that the business may be commenced at the stated time, and members may not be kept waiting. We may assist and lessen the duties of our Honorary Secretary by preparing and bringing forward papers for discussion. I trust the younger members of the profession will come well to the front with papers, for being fresh from their studies their minds are more adapted to perform this than the older, busy practitioner. They may also be the means of teaching the older members something they, in their young days, did not have the opportunity of learning, there being many more branches taught in the schools now than formerly. Some may say that they have not time to prepare papers, &c. To those I would say *try*, and if the facts of any of the interesting cases which daily occur in our practices are plainly brought forward, they will not fail to bring out the experience of others, and thus promote a good discussion, from which much both interesting and instructive may be learned. By a free interchange of opinion we are enabled to help one another.

These Societies tend greatly to raise the standard of the profession, also to foster professional etiquette and sociability amongst their members. I am of opinion our profession is not united enough : the more united it becomes the greater benefit we shall all receive. We may with good grace endeavour to increase our numbers by bringing forward for membership any professional brethren who may not already have been enrolled, for the larger the attendance, the more the experience and power brought to bear, the better we know one another, and consequently we shall be of greater assistance and instruction to one another. There is another point I wish to call your attention to, viz. the bringing forward and exhibiting of Pathological Specimens. These have, I think, been much neglected of late, and I hope this hint will cause you to improve upon that point. The most simple specimens, particularly when the facts and points of interest connected therewith are related, often tend to promote a good and instructive discussion. The most important cases are not the most curious and rare, but the every-day ones—which we are so apt to hastily dispose of because they are familiar. Over-haste is too often undeserved. In these discussions I cordially invite one and all to join. That little uncalled-for diffidence in rising throw away, and join in the discussion with earnestness and good intent—others are sure to follow, and thus the standard of this, the largest and oldest society, will be kept up. Let me entreat you not to

neglect to attend the meetings, but come with the intention of being useful to others, and you will find the advantages of taking part in the proceedings of our meetings are mutual.

There are many points of interest and value to the profession that might be discussed at these meetings, *e. g.* the late appointments of travelling inspectors under the Board of Agriculture in the new Pleuro-pneumonia Act; in my opinion, if this had been taken up and discussed by ours and other societies in time, and a deputation forwarded to the proper quarters, the appointments might have been different. I cannot but think myself that those veterinary surgeons at the head of the Board of Agriculture were to blame, for they should have protested against such appointments, and shown how much better for the position would have been men with technical and skilled training.

It should be remembered by all that the proceedings of our Societies are now published, and anything that is brought forward is transmitted to a wide circle; therefore it behoves us to labour and endeavour to maintain and uphold the rights of our profession; then the public may see we are advancing and mean to advance constantly.

Then, again, the doings of the Council might with good grace be discussed at our meetings, for by the combination of our Societies on any subject of politics relating to the profession, resolutions might be formed and forwarded to the Council which would, I am sure, have their kind attention in the best interests of the profession. Remember the Council of to-day is not what it was a few years ago. Members now receive hundreds of votes where they formerly received about a dozen, therefore the Council is bound now to listen to the united voice of the profession; and these Associations should, in my opinion, be the mouthpiece of the profession.

There are two subjects on which it behoves us all to form a clear opinion at once, and to express it so that it may be heard. No man should be neutral on the subject of Education or on the question of a New Charter. We must let our Council know what we desire.

It has been, I think, correctly affirmed that the progress of a science is in proportion to the advancement of its literature, whether we regard the latter as the parent or the offspring itself. Our literature has received many valuable additions, and there are many more in hand, all of which are of great value to the profession, and tend to keep the busy practitioner in touch with the latest scientific discoveries. In the advanced state of an art, the written observations, the voluntary contribution of valuable records by its members, are the never-failing source of an ample supply of information. In the earlier period, or, as it may be termed, the boyhood of an art, the supply does not flow so abundantly; hence the labours of those who have undertaken the onerous duties of editor become wonderfully, I may say fearfully increased.

Agricultural Science must ever be considered as intimately connected with Veterinary Science. Associations, having for their object the improvement of the former, have of late years sprung up in almost every district of this country, and in the published list of members you see the names of many of the most talented men in the kingdom. These Associations must necessarily be attended with beneficial results to our profession, and we are further assured of this by the recognition the Royal and other Agricultural Societies give the Veterinary profession.

We may honestly congratulate ourselves upon having made great progress, both socially and scientifically, during the last few years, and still there is room for much further advancement; but we are not all endowed with the same gifts, nor have we the same opportunities. As practitioners we all have opportunities of doing some good, and we should embrace them. We owe a great deal to our profession, and we should endeavour to repay a portion of it. If we cannot contribute to the discoveries of science we can add to the general store of clinical experience, and we can all do our best to raise or maintain our professional standard in the eyes of the public by proper attention to our clients and patients, and by giving and demanding courteous treatment between brother practitioners.

Gentlemen, there is another point of interest I wish briefly to call your attention to, viz. the overcrowding of the profession, which causes me to think what ever will become of us all. The competition, more particularly in large towns, is very great; this tends to reduce our fees both in quantity and quality. This reduction is of no benefit in maintaining the professional status; and if it continues, what will it be in years to come? The weak will go to the wall and the fittest survive, therefore it behoves all likely to practise as veterinary surgeons to learn their profession thoroughly, and be especially trained not only in the theoretical parts, but also in the practical branches of the art. To those who are not, certain failure will be the end.

I now thank you all sincerely for the patient hearing you have accorded me in reading these few remarks, which I am afraid have not been very interesting. I trust as the year goes round we shall feel that one and all have learned something through this, the Central Veterinary Medical Society, and I am sure we shall if you will all help.

At its conclusion *Professor Pritchard* said: Gentlemen, I am sure we have all listened with great satisfaction to the able address of our worthy President, and I think we should be falling short of our duty if we neglected to tender him a hearty vote of thanks for it, for it contains much which would tend to improve the interests of this Society. I therefore hope you will carry a hearty vote of thanks.

Dr. Fleming said: Gentlemen, I have very much pleasure in seconding Professor Pritchard's proposition. We are all indebted

to our President for his address, and we can all feel confident that the interests of the Society are in safe hands.

The vote of thanks was carried with acclamation, and Mr. Samson suitably responded.

SIDNEY VILLAR,
Hon. Sec.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

A MEETING of this Association, called by circular by Mr. Jas. Smith, Hon. Sec., of Huntingdon, was held at the Albion Hotel, Lincoln, on Thursday, October 16th.

The President, F. L. Gooch, Esq., F.R.C.V.S., was announced to take the chair, but in his unavoidable absence T. Smith, Esq. (Market Rasen), Vice-President, was elected to the position.

Present.—Messrs. J. M. Axe, Doncaster; W. B. Dickinson, Vice-President, Boston; C. Hartley, Lincoln; R. Mackinder, Peterboro'; T. J. Marriott, Bottesford; G. Osborne, Fulstow; T. A. Rudkin, Grantham; and the Secretary.

The minutes having been taken as read, letters and telegrams of apology for non-attendance were read by the Secretary from Professors Williams, Pritchard, and Axe; Messrs. Brooks, Gooch, Wragg, Greaves, Capt. Russell, &c.

The *Secretary* said he had received the following letter:

CENTRAL VETERINARY MEDICAL SOCIETY;
22nd June, 1890.

DEAR SIR,—At the ordinary General Meeting of this Society, held on the 5th inst., Mr. Wm. Hunting read his paper, "A New Charter—is it Needed?" a copy of which I have the pleasure to enclose.

Later in the evening it was agreed—"That the Central Veterinary Medical Society, with a view to learn definitely the opinion of the profession respecting the desirability of obtaining a new Charter, requests the Secretary to place himself in communication with all our Veterinary Medical Associations, in order that the question may be fully discussed at their meetings, and the views of their members obtained." I have therefore to ask that you will be so good as to bring this matter to the notice of your Association,

And am, dear Sir, yours truly,
SIDNEY VILLAR, *Hon. Sec.*

J. Smith, Esq., M.R.C.V.S.,
Hon. Sec., Lincolnshire Veterinary Medical Society.

Mr. W. B. Dickinson said he was of opinion that a new Charter was needed. They had empirics on all sides; and in his neighbourhood there was one man who had been to College and failed in his examination, and he was well known amongst the grooms, and frequented the public-houses and tipped the stablemen and grooms,

and that meant an anxiety to get work, and they (veterinary surgeons) suffered by it. Another man who had never been to College had done the same thing, and there was no doubt that members of the profession would suffer in the long run. He thought a new Charter was needed.

Mr. Axe said he thought it nothing but right they should support this as members of the Lincolnshire Veterinary Medical Association. As Mr. Dickinson said, there were empirics all round them who were not even registered practitioners, who were soliciting and feeing grooms, and getting in the thin end of the wedge somehow. A new Charter was really needed, and though it did not matter so much to practitioners of thirty or forty years' standing, the younger ones would have to fight these men, and they wanted protection, and they had no protection in the country.

The *Chairman* quite agreed with the proposal as to this new Charter, and thought they should put it in some definite form and support Mr. Hunting in this matter.

On the motion of *Mr. Jas. Smith*, seconded by *Mr. Marriott*, the following resolution was adopted unanimously:—"That in the opinion of the Lincolnshire Veterinary Medical Association, a new Charter is urgently needed for the profession, and this Association pledges itself to support any proposition from the Central Society to that effect."

Mr. Marriott asked how a new Charter would affect blacksmiths who docked horses and dressed wounds. Mr. Axe said they docked scores in his neighbourhood.

The *Chairman* said he attended a horse the other day that died of tetanus through being docked by one of these men. He suggested the intervention of the Society for the Prevention of Cruelty to Animals.

Mr. Dickinson quoted a case of palpable neglect through docking, and said an inspector of the Society for the Prevention of Cruelty to Animals summoned the man, and he was fined £3 10s. and costs, altogether £8. That stopped a good many of them. He now did a tremendous lot of docking where he did but little before.

The following paper was then read on "The Examination of Hunters as to Soundness," by T. A. Rudkin, M.R.C.V.S.

Mr. President and Gentlemen,—The examination of hunters as to soundness is, in my opinion, one of the most important duties we, as veterinary surgeons in a large hunting district, have to undertake; and in bringing it before your notice to-day I feel sure of giving rise to an interesting discussion.

In the first place I think we, or I might say the young members, should undertake it, so to say, as a specialty. Before a man undertakes the examination of a hunter he should first make himself cognizant with the points of one. We are often called in by our friends and clients to assist in a purchase, and in such a capacity we are supposed to know something of his points, &c.

The recognising of a good made hunter is to some men quite a gift, while others never seem able to tell the difference between a hunter and a carriage horse. To my mind nothing educates the eye so well as standing at the show-ring side, observing some of the best made horses of the year from yearlings upwards; inquiring of good hunting men and listening to their various remarks as to shape, symmetry, and action. I do not mean to say that show-ring attending is all that is necessary to learn the shape of a hunter; but given a good rudimentary knowledge—I say that there a man has more opportunity of seeing good, bad, and indifferent; and in time is able to pick out the good ones from the worthless crew which usually accompany them.

Now, as to examinations. I do not pretend to be able to write anything fresh. The subject is far too wide for me to go into in detail, and has been written about and discussed by some of the most able veterinarians of the day. I will leave the examination of unbroken horses, and will start with horses four years old and upwards—horses that are supposed to know something about the work they are intended for. If I were asked to give a definition of a practically sound hunter I should say that he must be perfectly sound in wind, action, and eyesight. My usual method of examination, if possible, is first to see the horse in his stable, watch him for a short time, see if he is pointing his feet, resting any of his legs, weaving, cribbing, or wind sucking; of course these latter defects are included more under the head of vices than unsoundness, but it is our duty to point them out if detected. I then have him brought to the stable-door and examine the eyes, which to my mind is one of the most important parts of our examination, and afterwards, if possible, I have him taken into a dark stall or box and again examine the eyes by the catoptic test. Being satisfied on this point, I then have him brought out, placed on level ground, and take a general look round him. Providing nothing special catches my eye, I start examining him on the near side, commencing at the mouth, being particularly careful as to the animal's age, shape of teeth, &c., running my hands over the various glands of the head and neck, examining pulse, jugular vein, and neck. Passing on to shoulders, I carefully examine the muscles and look for injuries. Having had the leg extended forward, I next auscultate the heart.

Standing in front of the horse, I examine his knees as to bony or bursal enlargements and marks of injury, and passing my hand down the foreleg, I look for splints, sprained tendons and ligaments, diseased fetlocks, ringbones, &c.; next I examine the forefeet as to malformations and disease. In every case where possible I have the fore shoes removed. With the horse standing perfectly square, I stand in front of him and look for malformed hocks, afterwards examining from the side. I run my eyes over the horse's belly, looking for injuries, hernias, &c. Passing on to the hindquarters, I stand behind the horse, looking for pelvic injuries or abnormalities; then examine stifle, run my hand down the leg to the

hock, which to my mind is the most important joint in the hunter, and which gives rise to so many opinions and controversies amongst professional men. It is our duty as veterinary surgeons not only to note the various abnormalities, but also the contour and shape of the hock, for although the hock may be perfectly sound as far as disease goes, still there are some shaped hocks that we are bound to note as likely to give way should any serious stress be put upon them. Having examined the posterior part of the leg I run my hand and eye down to the foot, taking particular notice of fetlock joints and manner of shoeing. If the horse is shod with cutting shoes I always make a note of it. I then have my horse turned round, and, starting at the front part of the off side, examine in the same manner, as I have done the near. This done, and provided there are no serious unsoundnesses, I have the horse trotted, preferably on hard ground, first very slowly to and fro, then a little faster, taking particular notice of his gait, and manner of turning round. I then have him turned round sharply each way, and backed three or four yards. If I feel in doubt as to his soundness in action, I have a saddle put on him and instruct the man to ride him at a slow trot. I get on his back myself, trot him on the hard ground, so that, so to say, I can *feel* if he goes sound.

Now comes the important part of the examination, trying him for his wind—for we all know that if there are serious defects or disease in his wind not only is his value depreciated, but he is to a certain extent rendered worthless in the hunting field. I always endeavour to select a grass or fallow field, or, if neither of these is available, the most quiet and soft place I can get. If he has a decent mouth I always use a double-reined bridle with curb fairly tight. I first give him a slow canter, listening for slight whistling. I then send him along in a good fair gallop, and so "open his pipes." I do not believe in bursting a horse when galloping to test his wind, as I consider that when once fairly galloped you can hear quite as much as if you nearly exhaust him and run the risk of doing him a serious injury and bringing yourself into bad repute. As soon as I have had a fair gallop, I pull my horse up as quickly as possible, and listen if I can hear anything while he is yet breathing quickly but standing still. Setting him going again, I have another slow canter, catch well hold of his head and turn him round sharply to right and left. If there is a hurdle or small fence near the field, and providing the owner is willing, I jump him once to see if he grunts ; if not, I try him with a stick. Providing he has passed through this ordeal all right, I take him to the stable, put him on the pillar chain for say twenty minutes. I then place his head to the manger and turn him over three or four times, noticing particularly if he turns over sound. I then have him brought out and trotted up and down on hard ground three or four times.

Having finished with the horse, the question follows, is he sound or unsound? Will he be likely to stand sound as a hunter? These, gentlemen, are sometimes very queer questions to answer, but

it is our duty to answer them as far as lies in our power, doing our duty both to our client, horse-owner, and ourselves. I always like, if possible, to have a personal interview with my client, telling him of the horse's deficiencies, and giving my opinion as to whether he is sound as a hunter and likely to remain so. None of us expect to examine a five- or six-year-old hunter that has been schooled and regularly hunted and find him without spot or blemish. I do not consider you can make a hard-and-fast rule as to soundness. We all know that some horses will stand sound for years with diseased joints or other defects, whilst others are just as likely to go unsound from similar diseases. Our great object should be to note all blemishes and unsoundnesses, and at the same time avoid taking any serious responsibility on ourselves. If we are careful, honest, and straightforward, we have very little to fear. We get fairly good remuneration for examinations as to soundness, and I say that any veterinary surgeon who is guilty of wilful negligence in examination deserves to suffer and pay for his neglect.

Just a word as to writing a certificate. Nearly every man has his own form and way of writing his certificate. I think the great thing is to write it briefly and guardedly; I strongly disapprove of certificates in the form of confidential letters—a way in which some men indulge. Our clients as a rule only want us to examine as to soundness, and not to give our opinion on things not asked for.

Gentlemen, when I proposed to write this paper, I little thought of the wide subject I had undertaken. I hope you will forgive my various deficiencies, and that my feeble effort will give rise to a profitable and interesting discussion.

Mr. Axe said the paper read gave them all the information they should have. They had to go through great difficulties in examining hunters, in putting up with little imperfections. So far as regarded practical soundness, the most important thing now was how to word their certificate. They might have a hunter with spavins or injuries on the breast, particularly a horse six or seven years old. The most important thing was the wording of the certificate. Let anything they saw be stated in their certificate, and then if the buyer wished to take the horse let him do so. This is a very delicate point now, writing a certificate—there are so many imperfections. They had to be most careful how they worded it.

Mr. Hartley congratulated Mr. Rudkin on his practical paper, and said his method of procedure so accorded with his own that he hardly knew what to say. There was no doubt they must be very straightforward and honest about it, and if possible give their certificate so that the client knew whether the animal was sound or unsound, or practically sound. Let it be straight to the point whether the horse was sound or unsound. As the law gave them special fees and protection, so it expected special duties, and if a man abused these he must be held responsible. The great difficulty to his mind was where to draw the line between staleness and

absolute lameness. Also the examination of a horse for wind; let them have a gallop and cool down, and they could find out anything the matter better that way than if they dug their heels in and got them more or less extended.

Mr. Dickinson said he thought it was well, with regard to men finding defects, to put it in their certificate, whether they wrote to the client or not. He did not approve of the letter-writing, but simply said in the certificate what existed. Say you found so-and-so, then you did not commit yourself, and it was fair for the client.

Mr. Hartley.—But the majority of clients will have a certificate as to soundness.

Mr. Dickinson.—They don't get one. If you examine a horse, you examine him.

Mr. J. Smith said he should like to say that he agreed a great deal with what Mr. Dickinson said. If he examined a horse for a client and found he had so-and-so, but in all other respects the horse was sound, the client then pleases himself whether he takes him or not. He should say that if a horse was a roarer that he was unsound. Also if he had a spavin he was unsound. Sometimes the client wrote and asked their private opinion, and they were bound to give it. Mr. Rudkin had referred, in regard to the conformation of a horse, as to what was likely to give way. There were sickle-shaped hocks which were likely to have curbs; and if they have curbs, the veterinary surgeon was as liable to the man to whom the horse belonged as he was to the man for passing over unsoundness which did not exist. A client of his bought a horse whose breathing in double harness could be heard from one end of the street to the other. The man he bought him of said he knew the horse was sound in his wind, and he went to Boston to see the horse. It was not convenient to put him in double harness, but he had him ridden, and tried him in every way he knew of, and could not make him make a sound, although in double harness he made a great noise. He thought there was a good deal of room for judgment in writing a certificate, and if a man gave a certificate palpably wrong he must suffer for it.

Mr Axe did not agree with Mr. Smith in saying a horse was sound in all other respects. A year and a half ago, he went to Leeds to examine a chestnut mare. She was seven years old, and had a spavin on one hock, but he gave her a tremendous gallop, and jumped her, but the mare was perfectly sound and free from lameness. That mare was hunted a season, and he examined her again, and found her sound, and she stood her work She had spavin, but she was perfectly sound and free from lameness. There were many such cases which were both practically and legally sound.

Mr. Mackinder said he was very pleased to be there to hear this discussion, for there was a great deal of difficulty in wording certificates of animals that were sound, *i. e.*, practically sound, but really not sound. He once knew a case in which an animal was guaranteed not to be lame. The seller knew there was an enlarge-

ment on the hock, but the animal was not lame. That was the condition it was sold upon—that it was not to be lame. An action resulted, and when it came before the judge he said they all knew what a spavin was; and this man lost his case. Although the animal had never been seen lame, the judge ruled against him and gave the verdict to the buyer.

Mr. Hartley.—I think a horse with a spavin is unsound.

Mr. Dickinson said that was his opinion.

Mr. Hartley said if a horse had only a lump he was sound.

Mr. Dickinson thought if they mentioned what they found, the buyer, if a horsey man, would look to himself.

Mr. Hartley said these defects were unsoundness, and they could not get out of it by saying "except these things." He should remark that the horse had a bony enlargement on his shin, or had been kicked in the ribs, or other defects; and he would say that these were technical unsoundness, but in his opinion the horse was practically sound.

Mr. Dickinson thought that was a contradiction in terms.

Mr. Hartley said if they had to declare a horse technically sound, it would stop half the horse-trade.

Mr. Axe said the great thing was, for a defect not to interfere with a horse's usefulness.

Mr. Dickinson said he looked upon letters after certificates as from a frightened man who tried to get out—

Mr. Axe.—Yes, as a sort of loop-hole.

The *Chairman* said there was one thing that would not be mentioned, and that was as to the suitability of a horse for a certain gentleman. If they knew a certain horse was not up to a gentleman's weight, they should not let him buy that horse. He might have a big hock, or anything else, and would carry a steady man well, but not another. There was a good deal in studying a man, if they knew the parties. One man might ride a horse for many years, and another might knock him up the first day.

Mr. Hartley said he did not see why a veterinary surgeon should not buy a horse for his client, and get a special fee for it, and he reminded them that if they rejected a horse which proved to be a sound horse, the seller could sue them.

Mr. J. Smith said if there was any disease about the hock they could condemn it.

Mr. Hartley said there were also peculiarities about breathing which could not be called roaring.

Mr. Smith thought they could not condemn a horse with sickle hocks.

Mr. Dickinson said he knew horses with very curby hocks carrying men for four or five years, and they had no summer holiday. When not hunting they went about in a trap. The question was—what were the best-shaped hocks?

Mr. Hartley said a good flat hock with the *calcis* prominent, not a round hock, but a long hock with the cap of the hock standing well out was, he thought, the best hock.

Mr. Axe did not like the little, narrow, weak sort of hock.

Mr. Hartley said one of the best tests of the hock was the action of the horse.

Mr. Axe said if horses flexed the hocks well it was all right.

Mr. Hartley said he should like to ask the essayist if he would unconditionally reject a horse for grunting.

Mr. Rudkin said if a horse grunted in an ordinary way, he should reject him, even if he did not grunt in the gallop. If he groaned from nervousness he should not reject him.

Mr. Hartley said he should reject him if he groaned.

Mr. Axe said he should not, as the soundest horse in England grunted sometimes after jumping three or four fences.

Mr. Hartley said he had three or four horses that grunted, and one groaned at his fences, but he did not think the others did. They were all sound enough.

Mr. Rudkin said in many cases this was simply nervousness, and in some cases was merely a case of voice.

Mr. Dickinson thought in many cases it was nervousness, and he should be very chary about objecting to a horse because he grunted.

Mr. Hartley said he wished to be made perfectly clear about this groaning.

Mr. Axe said they must treat these cases as men of business.

Mr. Freer said this was a most excellent paper, so far as he had read it, and he only regretted he was not there in time to hear it read. There was one thing which he noticed which was very important. Was a horse sound or unsound, or was he likely to stand sound as a hunter? A horse he saw the other day was perfectly sound, but he was sure it would not stand sound as a hunter. He did not see that veterinary surgeons who were asked to examine a horse should be asked to say whether he would stand sound or not. If so, it would be a very curious thing to go into a fair and say if a horse was going to stand sound and stand work. Another thing which he had often noticed was that a horse might be perfectly sound as regards shape and make in his hocks, but he would tread on the point of his toe and bring his foot round. Would they consider that unsoundness, and as regarded trying a horse for wind, it was no use "bucketing" them. He had found in his own experience more horses make a noise after a gentle trot than galloping them three or four miles. He remembered a case that had occurred to him when the owner of a horse would not let him try the animal properly, but after a great deal of persuasion he got him on to a bit of sand and found him perfectly sound in his wind. In 99 cases out of 100, they would discover more from a gentle canter than a hard gallop and getting him "done up."

Mr. Rudkin, in reply, said that he had been asked why he had not gone into the technicality of soundness, but was afraid if he had they would have been here all day. As to the legality of the question, he referred them to Professor Axe's late paper on the subject; and as to soundness, to Mr. Banham, who had written a very

exhaustive paper. He thought if they looked at all the little blemishes as unsoundness they would pass very few horses. He did not mean to say they should pass a horse with a "fishy hock." In giving his certificate, he should say a horse was sound in such and such a respect, but not in others. As to the formation of the hocks, of course they could not really reject horses; but if they had sickle hocks he should name it, and point out that the hocks were of such a shape. As to the bumps, he should call a horse with a bump on the outside of his hock as sound as one with bumps on his shin. He strongly objected to writing letters to clients, and thought they ought to be able to put all they wanted into a certificate. Mr. Freer had asked him if he would pass a horse dragging his toes. They could mention it, but he did not think they would be justified in rejecting a horse because he dragged his toes.

On the proposition of *Mr. Dickinson*, seconded by *Mr. Hartley*, a hearty vote of thanks was accorded Mr. Rudkin for his paper.

New Members.—Messrs. Robert Clark, of Horncastle, and W. R. Davis, of Upwell, Wisbech, were elected members of the Association.

The Dinner.—The members of the Association afterwards dined together at the Albion Hotel.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting of the above Society was held in the London Hotel, St. Andrew Square, Edinburgh, on Wednesday, November 12th; the president, H. Thompson, Esq., M.R.C.V.S., in the chair.

There was a good attendance of members and visitors. The minutes of last meeting were read and confirmed, as were also those of a special meeting held on August 22nd, at which meeting resolutions were adopted protesting against the position of veterinary surgeons under the Act as lowering the status of the profession, and imposing upon them duties which were foreign to the nature of their calling; requesting the Board of Agriculture to afford veterinary surgeons or inspectors reasonable facilities by *post-mortem* examination for proving the accuracy of their diagnosis before making a declaration; and asking that only in cases of dispute, after consultation with another veterinary surgeon, should the lungs be sent to London.

The following reply, dated 18th September, was received from Mr. Chaplin's secretary :—"I am directed by the President of the Board of Agriculture to inform you that he is unable to understand in what way the Pleuro-pneumonia Act of 1890 interferes with the status and dignity of a veterinary surgeon, and imposes upon him duties which are foreign to the nature of his calling.

In reference to the second resolution, I am to point out to you that the Contagious Diseases (Animals) Act of 1878 does not provide for the slaughter of cattle until after the inspector of the local authority has made a declaration, and the local authority have inquired into its correctness. The signing of a declaration is not to be considered an equivalent to proof that the disease actually exists, but it has the very important result of constituting the place where affected animals may be at the time an infected place, and thus prevents the escape of any of the animals which were in contact with it pending further inquiry. The action of the Board does not commence until the inspector's declaration is received. Referring to the third resolution, I am to suggest that as the Board are solely responsible for the administration of the Pleuro-pneumonia Act, and required to pay the costs of compensation and other expenses out of public funds, it is absolutely necessary that they should inquire into the correctness of the declaration through their own veterinary officers in the same manner that the local authorities inquire by the aid of their officers, and the most convenient method of carrying this out would appear to be by sending the lungs to London for examination." In the course of conversation the feeling was general that a great hardship would be inflicted upon veterinary surgeons in requiring them to make a declaration merely on suspicion of what the disease was, there being cases in which it was impossible, without a *post-mortem*, to determine whether the disease was pleuro or tuberculosis; and it was felt that if there should be no opportunity of testing the accuracy of the diagnosis, the inspector would be placed in a very awkward position if he declared in favour of pleuro, and an examination of the lungs showed that the disease was tuberculosis. It was also stated that the recent indignation meeting of the profession had been attended with good results, as it had led to a relaxation of the rules in favour of the veterinary inspector. According to the method now practised, the veterinary inspector, if he suspected an animal of pleuro, was empowered to arrange for the valuation and slaughter of the animal, the lungs being forwarded to London. The letter of the Minister of Agriculture was ordered to be minuted.

Principal *Williams* moved that Mr. Clark, Coupar-Angus—who was, he said, the first student who had passed out of his hands in the Dick College—be elected president for the year. This was unanimously agreed to. Mr. Henry Thompson, Aspatria; Mr. Cameron, Berwick-on-Tweed; and Mr. Storie, East Linton, were elected vice-presidents; and Mr. R. Rutherford having relinquished the offices of secretary and treasurer, because of pressure of work, Mr. Peter Moir, Edinburgh, was appointed his successor.

Mr. Greaves, F.R.C.V.S., Manchester, then read the following paper on "Reminiscences of Practical Politics in the Veterinary Profession."

MR. PRESIDENT AND GENTLEMEN,—In the first place I must thank you for the honour you have done me by giving me the privilege of reading a paper before the members of the Scottish Metropolitan Veterinary Medical Association, it being the second or third time I have had this pleasure.

In taking a cursory view of our profession during the course of the last fifty-six years, of which I have witnessed, we find a remarkable change has passed over it; every step in its onward progress is interesting, and the success is lasting. Whether we consider or compare the status of our profession, follow up our investigation into the scientific aspect of it, or pass in review the advance in the practice of our profession, we shall find much, very much, to interest and repay us for our trouble—we shall find plenty of material to select from. In classifying the subjects I intend to lay before you to-day, I shall have to remind you that at the beginning of the period of which I speak, we had no Charter of Incorporation, no Council of the Royal College of Veterinary Surgeons, no Act of Parliament, nor the slightest check on any or every form of empiricism in our profession. All this is changed now. I am in a position better than younger men to measure the enormous amount of true, real, substantial progress. We have now a Council elected by voting-papers, and every member of our profession has a vote, and he is applied to and urged to record his vote. This is one of the battles fought and won for you by our party in Council.

We have now four teaching schools, each presided over by able and earnest men. There are a greater number of teachers, a greater number of subjects taught, and taught more profoundly than they have ever been before, but still we have complaints continually being made of the inefficiency in the extent of practical knowledge possessed by many of the students. Some of them could not cast a horse, pare out a foot, bleed or give a ball, pass a catheter, or tell a lame limb with certainty, if life depended on it. When the students appear before the examiners and before the army authorities when applying for admission into the service, this becomes more apparent, and also when they come before the greater examining board—the public. In treating this difficult and delicate question (there are dreamers who think a new Charter is the great desideratum, than which nothing can be more ridiculous), I wish frankly to admit that I exonorate to a great extent (but not wholly by any means) the teachers for this state of things. I also exonerate examiners to a great extent, but not wholly. My long experience in the Council, also with the College and the Court of Examiners, has convinced me that there are grave faults existing in the students themselves—some of them in the form of insufficiency of intelligence, in others in a wilful insufficiency of application. Now, the one class we may pity, but the other class we must blame and condemn most seriously. At the present time the colleges are exercised as to the raising still higher the students' entrance fees. This step

may raise a barrier to many poor struggling, but in other respects highly eligible, young men, and will create a tendency to securing a select class, possessing ample means irrespective of possessing ability, or, I would rather say, that peculiar talent or natural habit which experience has proved is essential to the making of a clever and eminent veterinary surgeon. For myself, I fail to see how this raising the entrance fee can effect a favorable result, even if the present entrance fee be doubled. It is argued that it will enable the colleges to employ a greater number of teachers, and those of a high scientific class. There may be something in this view of the case; but I hold you may double—nay, treble—your scientific teaching, and still the student be woefully deficient as a clever all-round practical man. In my opinion the principle of the teaching is defective. What is wanted is not more science, or a greater number of science teachers; we want, in the first place, the weft and warp right, the required degree of intelligence in the student, the proficient education, and then the manual tuition carried out much further than it is at present, coupled with the present scientific teaching at the Colleges.

What I mean is this: that every student who has not served an apprenticeship to a veterinary surgeon before going to College, or been working some years amongst sick and lame horses, should have every opportunity afforded him to become thoroughly conversant with every phase of disease. Do you ask me how I would do this? I answer, let there be at each college a professor appointed with special aptitude, special qualifications, such as patience, intelligence, expertness, and perseverance to instruct the students in manipulating the horse, the ox, and the dog; he must be clear in his explaining every particular. He should not be, as is the case at present, *stinted to time or inclination*, but should spend at least three or four hours a day, viz. every day with the students amongst sick and lame horses, *superintending and instructing every student individually* in every duty as to the work of his profession. I urge the importance of giving to work of the hands its due dignity; it is the best teacher.

For instance, show him how to take up a forefoot and a hindfoot of a horse, also of an ox; make him do it over and over again, until he can do it handily and expertly. Make him take off a shoe and pare out a corn, a frog, a seedy toe. Make him understand what weak heels and a flat sole mean; make each student do this over and over again under the teacher's eye and instructions; teach him to put himself in ship shape in going about his work. Teach him the different descriptions of the pulse, and what these are dependent on; make him perform every operation (in dumb show)—bleeding from the jugular, the vena saphena, the brachial vein, &c. Teach him to become familiar with every sound in respiration, in health and in disease, by auscultating and percussing the chest; make him introduce the

male and the female catheter ; make him perform œsophagotomy, tracheotomy, paracentesis thoracis, neurotomy, lithotomy, castration, puncturing rumen and intestines. Teach him to become familiar with every symptom of pleurisy, broncho-pneumonia, bronchitis, pneumonia, fever in its various forms. Show him the pathognomonic symptoms of various lamenesses, hip-lameness, shoulder-lameness, hock-lameness, navicular disease. Show him how to manipulate (make him do it himself), to enable him to form a clearer opinion in occult lameness. Make him administer balls and drinks to horses, oxen, and dogs, to dress wounds, put on bandages, to cast horses, to fire horses, and a hundred other duties; make him repeat them over and over again—*they cannot be done too often.* I may be told by professors *we do all this already.* To this I make reply—yes, I know you do, but only in degree. *It wants doing ten times more than it is done.* More time, and more perseverance must be employed on this subject, more importance must be attached to this method of teaching than has been done hitherto. Or all our scientific teaching and increase of entrance fee will not avail to maintain our profession in that high and honorable position it ought to occupy.

Give a man a sound general education with French and Latin. It is not absolutely necessary that a man must possess a scientific mind to enable him to become a clever and eminent veterinary surgeon. Is it not a fact that the majority of rejections of students are consequent on their being unable to answer some scientific questions of little importance in actual practice? I say *let practical proficiency be the crucial test.* We know it is generally quite true that the most highly scientific men, both teachers and examiners, are faddists.

It is also true there are some students so dull, and others so idle and careless, that no teacher, however anxious and persevering he may be, can make them learn. It is the teacher's duty to lead his mind to form a scientific and clear habit of looking at things. I do not say—no one has ever said it—that every student can be made a sharp, bright, and intelligent man; but I do say much, very much, may be done in this direction by a proper and persistent discipline whilst at College. I am satisfied that there is much valuable time wasted during the first and second terms. This initiates habits of idleness, if not worse, and should be specially guarded against—a habit of loafing about, a sort of masherism in demeanour and deportment is engendered. Even those who would fain not be bores, or snobs, or mashers, can scarcely escape the infection, instead of a steady, earnest, thoughtful industry, leading the mind and finding it full occupation in useful and valuable studies. It is the formation of the mind, a faculty to be carefully cultivated; it is the turning-point in student life, and his mind should be led to understand the value of being every minute usefully employed.

The degree of natural capacity is a result, and is governed by

laws which we did not make and cannot abolish. Culture teaches us to recognise how little we do know, and how much lies, and probably always will lie, beyond the reach of our faculties.

"The Hand that form'd thee in the womb
Guides from the cradle to the tomb."

Veterinary Medical Associations.

I must not omit to bring under notice these most useful and important institutions which have grown up in our midst during the last twenty-five years. These societies are now become numerous, and most beneficial to the advancement of our common profession; nothing that has ever occurred in the history of our profession has been so prolific of good results. Each association is a centre of power and usefulness, and, if conducted in a proper spirit, will continue to wield an influence for good as long as our profession exists—the meeting together of men of large experience, and men of large culture, freely interchanging ideas on scientific and practical matters, such as on bacteriological research, tuberculosis, lymphadenoma; teaching one another the evil of the culpable disregard of the most elementary principles necessary for securing sound and serviceable horses. Even in the vexed question of pleuro-pneumonia and the method our Government adopts to stamp it out, how much better if it were possible for our profession to work heartily and earnestly with Government in blotting out for ever this dreadful scourge from our midst! Let simplicity and frankness characterise our conduct; let envy, jealousy, and all uncharitableness be restrained and banished, and then we can say—

"Ye proud, ye selfish, ye severe,
How vain your mask of State!
The good alone have joys sincere,
The good alone are great."

The National Veterinary Association.

This institution has sprung up amongst us. It is an offspring of the above associations. Its objects and tendencies are to increase and diffuse useful veterinary knowledge. It is sustained by some, if not all, of the *élite* of the profession, and is worthy of the best support of our best men.

The National Benevolent and Mutual Defence Society.

This society was formed twenty-five years ago. The necessities of our profession called for it; it has been found of immense service in protecting and defending its members. We have had since its commencement twelve general meetings, thirty-seven meetings of Council, at which upwards of sixty cases have been discussed, independent of those which have been advised upon and disposed of by members of Council privately. Of the benevolent branch we have assisted many widows and orphans. We have now a fund of nearly £3000 to help the widows and orphans of the less fortunate members of our Society; and is there, I

would ask, any feeling in our nature so gratifying as the consciousness of doing good, and occupying a position of being able and willing to help those left suddenly wholly unprovided for?

"The sweetest voice
That warbles in the grove is not so sweet
As thine, '*Compassion;*' nor the boldest deed
Of hero's arm so worthy of the lyre
As acts of '*Mercy;*' nor in all the round
Of being is there aught in God's pure eye
So bless'd, so bright, so sanctified, as these kind thoughts
That stir the bosom of '*Benevolence.*' "

Our Literature.

During the period I have named the additional works on our profession have been most valuable; the numerous and valuable volumes added to our libraries, the fruit of the labours of Dr. Fleming, Professor Williams, Sir Frederick Fitzwygram, and others. In addition to these standard works, we have now not only our old monthly journal the *Veterinarian*, we have also that excellent *Veterinary Journal*, the weekly *Veterinary Record*, and the *Quarterly Journal of Comparative Pathology and Therapeutics.*

These several matters which I have named, and many other matters which I have omitted, show the value of the work done during the last fifty-six years. We do not now adopt that method of bloodletting and violent blistering to coerce and oust out disease in nearly every case that comes under our care, as was the custom at that time. We have learned the better way. Knowing that nature is ever a wise economist we find it is better to let her lead, we recognising it to be our duty to remove every obstacle out of her way so far as our limited vision reveals to us.

Empiricism is Dead in our Profession.

No one—only veterinary surgeons—can treat the ailments of domestic animals and charge for such services; any one else doing so can be proceeded against according to law—thanks to our Act of Parliament, which will ever be associated with the name of that distinguished man, Dr. Fleming. This in addition to our two Charters and Supplementary Charters, each and all supporting and contributing to advancement of our profession. We are now at full liberty to discuss any and every great question in connection with our profession; for instance, whether it be cruelty or not to dock horses, whether it be cruelty or not to dishorn cattle, or discuss the various phases of pleuro-pneumonia and its prevention. Ay, even—

The Dual Appointment and the 9th Clause.

The 9th Clause was inserted in the Supplemental Charter which was granted in the year 1876, and as therein stated, it was "considered expedient that in order more effectually to promote and encourage the study of veterinary medicine and surgery, a

new class of members to be called Fellows shall be created." The only object the promoters had in applying for and getting this power was to create an additional incentive to increased study, to found a higher grade, a higher status—in short, to raise the character of our profession to a higher level than it had hitherto occupied. Surely there could be no objection to this. At the time every member was consulted, it was discussed over and over again, in committee by the Council, every Veterinary Medical Association deliberately discussed it, it was discussed and approved at the Annual Meeting, *and a tacit consent given by the whole profession.* Now, every aspiring and worthy member of our profession can occupy this higher degree if he is so minded. Those Fellows who are partly elected and partly made by examination are composed of some of the most distinguished members of our profession, such as Sir Frederick Fitzwygram, Dr. Fleming, Sir Henry Simpson, and many others; men of unswerving constancy, they are faithful devoted servants of the profession. They alone are eligible to become members of Council or Examiners. Since 1876 every new member entered on these terms, therefore can have no complaint to make. The thought is never breathed that there are not outside the list of Fellows many members equally talented and eligible, and it is our anxious wish that they should aspire to take this higher degree, become Fellows, become members of Council, and, if they are desirous and fully qualified, become Examiners. *Every member of our profession who posseses ordinary ability can become a Fellow if he likes.* But this arrangement a few individuals in our profession find fault with. I do not say that they are actuated by corrupt motives—they are under a strong bias. The men most loud in denouncing it are the men who have done the very least of any one for the profession; it would seem that they have a pleasure in fomenting discontent. As a rule, they are the men who possess the least liberal share of ambition or ability; they get up a factious opposition to serve the political exigencies of the moment; they resort to paltry methods of attacking men who have worked long and hard for the profession; they have a personality instead of a principle—men who would not make an effort or do a hand's turn to advance their profession, and, if elected members of Council to-morrow, could not and would not find in their hearts to spare the time or the money to attend the committee or quarterly meetings of Council. Some of them have a blind hatred to the loyal party of progress. Men of no aspirations would make useless members of Council. We may lament, we may grieve over this, but do not let us fear it, let us make the best not the worst of it.

The profession has not suffered in the slightest degree through the dual appointment; it is found of immense advantage and convenience to the Council meetings. It is because these men are valuable and useful men that they have been elected to the dual office. They serve the profession well—take my word for it,

it will be a loss and a sad day for our profession if it is ever denied the power to utilise men who possess distinguished and special aptitude for these duties; we must always guard ourselves against deciding questions of great breadth upon narrow and isolated grounds. The present members of Council spare neither time, trouble, nor expense if only they can do something to serve some good purpose in the profession they love.

To every member of my profession I would say, if you really have any feelings of ambition and strong desire to see your profession advance and occupy a higher standing, you will seriously consider this matter, and become a Fellow, and thus join the party who have struggled, and are still struggling, to gain for us all a better position in society. It is this privilege in connection with it—this hope of reward that has been the chief incentive for members to work, to study, to aspire, and to qualify for this higher degree. There is no doubt about it, they improve themselves, they raise themselves in their own estimation, and in the estimation of all who know them. Let the same laudable feeling actuate you who are not yet Fellows; let not a feeling of envy incite you to disparage this degree, and to join those who are now endeavouring to carry a retrograde movement, trying to drag us down again, and trying to discourage every noble aspiration. Men who will do this are enemies to our noble profession. We have difficulties to grapple with and prejudices to overcome, but do not let us despair. I hope every member of our profession possessed of an enlightened spirit and every man of proved capacity will esteem the Fellowship degree an addition to his respectability and honorable character, and will pluck up courage to endeavour to obtain it.

The New Charter.

I trust every man of right judgment will say a new Charter is quite unnecessary. It cannot be productive of any real practical benefit or be conducive in any way to the advantage of our profession. I dislike and detest unnecessary and gratuitous changes. A new Charter cannot make clever veterinary surgeons; and this is the end and aim of all effort by all men but those who take a pleasure in fomenting discontent. Let us stick to this large consistent principle where a solid base exists. Would not Government laugh at us if we apply again so soon for another Charter before we have had sufficient time to test fully the last one, especially since the result of experience, so far as the present system is concerned, is so eminently satisfactory to the profession in general? Would not Government say, and have good ground for saying it, that we do not know our own minds for five minutes together? I urge you not to attach exaggerated importance to the puerile arguments put forth by some poor useless creatures, but let us go forward towards the consummation of this good work—that of elevating our profession as an honorable, scientific, and useful profession.

In the discussion which followed, and which was taken part in by Professors Williams, sen. and jun., Lewis, Messrs Clark, Cunningham, Cameron, Rutherford, Thompson, the chairman, and others, the position which Mr. Greaves took up on the 9th clause was that which commanded most attention; and there was an undoubted consensus of opinion that a new Charter was desirable to alter the clause in the direction of restoring the rights of members of the Royal College of Veterinary Surgeons to sit in council, and more especially the rights of those who were members at the time the clause came into force.

Mr. Greaves, in replying to the remarks which had fallen from the various speakers, said it was not the first time he had had to change preconceived opinions by coming in contact with and hearing the opinions of his friends of this Society, and he had to admit that he had heard much that day to cause him again to do so. In saying this he was understood to refer to those gentlemen who, passing prior to 1876, have special claims to have the clause altered.

The *Chairman* remarked upon the omission from the paper of all reference to the Society for the Prevention of Cruelty to Animals, which was, in many cases, causing difficulties to veterinary surgeons in following their profession.

A long and interesting meeting terminated with votes of thanks to Mr. Greaves for so kindly and at so much trouble bringing forward his paper, and to Mr. Thompson, the Chairman, for presiding.

R. Rutherford, F.R.C.V.S.,
Hon. Sec.

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

The half-yearly meeting of the above Association was held at Chubb's Hotel, Plymouth, on October 27th.

The President, Mr. S. Burton, of Torquay, occupied the chair.

There were also present—Messrs. H. W. Thomas, Plymouth; T. Olver, Truro (Vice-Presidents); Dr. Honey; Messrs. J. Squire, H. W. Bloye, A. H. Oliver, P. G. Bond, Plymouth; J. H. Penhale, W. Ascott, Bideford; F. E. Place, Exmouth; T. T. Harvey, St. Columb; and the Hon. Secretary.

Letters and telegrams, regretting inability to attend the meeting, were received from Professor Penberthy; Messrs. J. A. Collings, R. E. L. Penhale, J. P. Heath, R. Pethick, and H. P. Chase.

The minutes of the last meeting were read and confirmed.

Messrs. Place, Exmouth, and James Colyton were unanimously elected members of the Association.

Mr. Thomas raised a short discussion on abortion in cows, in consequence of a letter which that day appeared in the *Western Morning News*. It was the universal opinion of those present that the keeping of goats and donkeys with the affected cows in no way stayed the disease, and that it generally arose from one of three conditions—an unexplained condition of the bull, diseased grasses, and contagion.

The *President* then called on Mr. J. H. Penhale, of Bideford, to read his paper on

Some Forms of Administering Anæsthetics to the Lower Animals.

Mr. President and Gentlemen,—In the short paper which I have the honour of reading before you it is my intention to treat this subject from a practical point of view, speaking of facts that have fallen under my personal observation, and describing the methods of administration, rather than to enter into the history of anæsthetics, or deal with their therapeutic action, of which I can tell you nothing that you do not already know better than myself.

The great increase of late years in the use of anæsthetics on the lower animals I attribute to three chief causes.

1st. A growing recognition of the fact that it is our duty as veterinary surgeons to avoid causing unnecessary pain to the lower animals, not only from considerations of humanity, but because we know that pain exhausts the patient, retarding, and even in some cases preventing, recovery.

2nd. The use of anæsthetics greatly increases the safety of the operator and the attendants, which you will agree with me is a matter of no small consideration.

3rd. It enables us to perform operations much more neatly and expeditiously than when the subject is conscious.

Many objections are raised to the use of anæsthetics. We are told that they are expensive, that they are dangerous to administer, that they cause more nervous irritability than would arise from the pain of the operation, and that they prevent wounds from healing so rapidly as they otherwise would.

Personal experience teaches me to look upon these objections as groundless. I have never found that there is any danger where ordinary pracautions are observed; and, so far from any bad effect following upon anæsthesia, I find that all the animals I have chloroformed recover very rapidly (none taking over five or ten minutes), and do not show any nausea or nervous irritability.

I have never found that anæsthesia prevents wounds from healing, and in castration and firing they do far better than without it, with the further advantage that in firing there is not nearly so much liability to blemish.

I should meet the objection as to expense by pointing out that under the new method of administering with the Carlysle

bag we require only half the quantity of chloroform formerly used under the old method of sponge and towel. Further, we now almost exclusively use methylated instead of rectified chloroform at one half the expense.

We will now proceed to consider the different kinds of anæsthesia and the different methods of administration.

We have three kinds of anæsthesia—total, partial, and local.

Total Anæsthesia—Chloroform.—For total anæsthesia I prefer chloroform, and of this I shall chiefly speak, as my experience has been almost entirely of its use. Before speaking of its action I will describe my mode of administering. I invariably cast my patient if it is a large animal. I never attempt to administer without casting, and for this reason: at first you have a period of excitement, especially in the case of the horse, which fights a great deal, and is not only likely to injure himself, but the attendants; moreover, there is a probability of further danger to the animal in falling to the ground while going under the influence, as I have noticed that in rising before complete recovery it sometimes spreads its legs in such a manner that unless the muscles were relaxed it would undoubtedly sprain them.

After having cast the animal and secured it I put on the Carlysle bag, this being the best in my opinion, because it asphyxiates as well as anæsthetises, and has the advantage of getting the patient under very quickly with a small amount of chloroform, the horse taking little longer than from two to five minutes, as compared with fifteen to twenty under the old method of the nosebag, sponge, and towel, which allowed a quantity of air to be mixed with the chloroform, producing nausea and depression which lasted for hours, and sometimes even days; this you never get with the method I advise. I find in the lower animals that you can give almost pure chloroform; indeed, I exclude all the air I possibly can, as I disagree entirely with the old theory that you can only give chloroform at 5 per cent. solution with air. I must not omit to mention another great advantage of the Carlysle bag. I have found that it enables me to dispense with assistants, and administer chloroform and perform the operation alone. I shall not dwell upon the action of chloroform; you all know how it acts, more particularly on the heart and on the muscles of the respiratory organs, and that its influence extends from the periphery to the centre, and from the extremities forwards; so I shall at once give you the doses that I have found necessary for the various animals I have chloroformed, and the length of time it takes to get them completely under influence.

Horse.—I find that old horses require a larger dose than young ones, and underbred more than well-bred. For employment of the actual cautery (firing) more chloroform is needed than for the knife, even in castration. The influence is much more rapid when the head is placed on a higher level than the body. With the Carlysle bag the horse requires 2 oz. if over

three years old, and 1½ oz. in the case of yearlings. The time is from two to five minutes, or rather longer in the case of old animals. If they do not lose consciousness in five minutes I add 4 dr. more.

Cow.—The cow takes just the same dose as the horse, and is about five minutes in being acted on.

Pig.—I use a modified bag for the pig. Dose, 2 to 4 dr., according to size. More air is required for the pig than for any other animal that I have chloroformed. Time, three minutes.

Dog.—For the dog I find the bag acts as a muzzle as well, much better than a kerchief and cotton wool. Dose, 2 to 4 dr. Time, 5 to 10 minutes.

Cat.—In chloroforming the cat I place the animal under a bell glass with a sponge sprinkled with 2 dr. of chloroform, it will take effect in about ten minutes. I think the reason that a cat takes longer to be affected than other animals is that asphyxia does not occur so quickly by this method as with the muzzle, which we cannot use in the cat.

Fowls.—My method of chloroforming fowls is to saturate a small piece of cotton wool with 30 mm. of chloroform, and place it on the beak just in front of the nostrils. The time I find to be about two minutes. I always chloroform when caponizing.

Total Anæsthesia.—Ether.—I have only used ether once or twice, and have found that it was slower and less complete in its action than chloroform, and that the dose required was two or three times larger.

Professor Vachelta says that ether is less dangerous than chloroform for dogs. This is possible, as the majority of dogs suffer from heart disease, and by the use of ether, which acts as a stimulant, you avoid the danger of paralysis of the heart which is liable to be produced by chloroform. Yet I have nearly always used chloroform, as I find it more expeditious than ether, and never had a death from its use. In two cases I have partially anæsthetised a dog with ether and afterwards used chloroform. I think this to be a safe method where there is a weak heart, as the ether acts as a stimulant to the heart, and complete anæsthesia may then be produced by chloroform without much danger.

A.E.C.—Another anæsthetic sometimes used in the human subject is composed of one part of alcohol, two of chloroform, and three of ether. I have had no experience of its use, but I do not believe it to be so safe as pure chloroform in cases where you have a weak heart to deal with.

Chloral Hydrate.—I cannot speak from experience of the action of chloral hydrate. It is largely used by Continental practitioners. Professor Nocard, in the *Transactions of the National Veterinary Congress*, 1886, says that for years he has used no other general anæsthetic but chloral hydrate, in a solution of one to three of water as an intravenous injection, the dose being—

For the horse . 155 grs. for every 220 lbs. weight of the animal.
„ ox . . 120 „ „ „
„ dog . 45 to 90 grs., according to size.

His method of administering to larger animals is to puncture the jugular vein without incising the skin. In the dog he lays bare the external femoral vein, and punctures it either with a trocar or hollow needle. In from 500 to 600 injections he has had no deaths occur, the sleep is calm and anæsthesia complete. The time necessary to produce insensibility to pain with chloral hydrate, when injected, is from five to eight minutes.

We now come to the consideration of those operations in which I have found total anæsthesia of great value.

By means of it castration can be performed very expeditiously, as the animal does not struggle. I have often completed the operation within ten minutes, including the time of administration.

Firing can be done far more neatly than without it, and the painful operation of neurotomy can be more easily performed. In obstetric operations it is invaluable where the uterine and abdominal muscular contractions are so great as to interfere with manipulation, especially in presentations that are breech, and with head or shoulders turned backwards. You all know what a difficult thing it is to push back a fœtus when the contractions are in full vigour, but by the use of chloroform it becomes quite easy. The same remark will apply to prolapsus uteri.

Another great advantage of anæsthesia in obstetrics is the prevention of the violent uterine contractions which are liable to cause rupture of the uterus. It lessens also the exhaustion of the mother, rendering recovery more rapid. I have never known it to occasion hæmorrhage. Less chloroform is required to anæsthetise a pregnant animal, as the pressure of the fœtus in the uterus on the lungs has already produced partial asphyxia.

I cannot describe the symptoms of death from anæsthesia from my own experience, as I have never had a patient that has failed to recover within a very short period after the removal of the bag or sponge, so I shall confine myself to quoting Finlay Dunn. "Danger," he says, "is to be anticipated whenever the breathing becomes slow, shallow, or noisy; the pulse slow, weak, or suddenly irregular; the pupils dilate, the conjunctiva if touched provoking no reflex action—with such warnings artificial respirations must instantly be resorted to, great care being used to prevent any rough handling, which might entirely paralyse the weakened heart. Cold water should be thrown over the head and neck, care should be taken to secure fresh air, and the tongue should be drawn forward lest it interfere with inspiration. The galvanic current over the phrenic nerve has been advised, but if used at all it must be with the greatest caution."

To these methods of resuscitation I should add inhalations of

ammonia and hypodermic injections of alcohol. In large animals I should always, if possible, get the head on a lower level than the body, and in small animals I should invert the body.

Partial Anæsthesia.—Partial anæsthesia may be produced *per rectum* by means of Arnold's tube; I have never used one of these instruments myself, but I am indebted to Messrs. Arnold and Sons for the loan of one for exhibition at this meeting. They have also been most kind in snpplying me with other specimens.

The apparatus* consists of a glass tube, india-rubber tubing, and cannula of ivory. The glass tube is filled with ether, and the cannula introduced into the rectum. The tube containing the ether is then plunged into a vessel filled with about a litre of boiling water, which quickly causes it to volatilise, and to penetrate into the intestine in the form of vapour; at the expiration of two or three minutes the odour of the ether is perceived both at the nose and mouth of the animal operated upon.

The glass tube can be charged as many times as may be found necessary.

The operation can be performed with the patient standing, which is a great advantage when foals have to be dealt with, for in their case it is often a matter of considerable difficulty to adjust the hobbles before casting, but etherisation once established renders the colt innocuous to handling.

This tube can be employed with advantage for castration in the pig.

Partial anæsthesia is very valuable in parturition, especially in mares who struggle so violently; it keeps them quiet, and still allows the uterine contractions to continue. Barnes, in his lectures on obstetric operations, says that chloral hydrate is especially useful in the first stage of labour, as it produces insensibility to pain without stopping uterine contraction.

Local Anæsthesia.—Local anæsthesia may be produced by means of the ether spray, of cold water, snow, or ice; or else of subcutaneous injections of chloroform, chloral hydrate, or cocain.

The ether spray I consider the best for firing; but I do not think it very satisfactory in castration or neurotomy, as the wounds heal badly.

I have used cocain largely, and my experience is that it is very valuable as a local anæsthetic for operations on mucous membranes, but not on any other parts of the body; it is of little use, for instance, in firing, or removing tumours from the skin and connective tissues.

I have found a 4 per cent. solution applied with a brush on the cornea very useful in removing foreign substances from the eye, especially in cattle. In one operation on a dog I injected

* Extract from *Veterinary Journal*, July, 1886.

the solution near the corner of the eye, dropped some on the cornea, and waited from about three to four minutes before removing the membrana nictitans, which I performed without apparently causing any pain.

Tabloids are the best form of cocain, as it does not remain good in solution for more than from twenty-four to forty-eight hours. These pellets contain 1 gr., and to form a 10 per cent. solution one pellet must be used for every 10 minims of injection required; for a 4 per cent. solution as an anæsthetic for the eye each pellet would obviously require 25 minims. It is recommended in firing to use a 20 per cent. solution, 10 minims being injected in six or eight places.

I have dealt at greatest length on the subject of total anæsthesia by chloroform for the reason that I consider it safer and more generally useful than either partial or local anæsthesia, except in two classes of operations.

In *obstetrics* partial anæsthesia is invaluable except in extreme cases, where it is necessary to completely anæsthetise and use instruments.

In operations on the *eye* local anæsthesia with cocain is preferable.

The use of anæsthetics, which at first excited a great deal of prejudice, is daily growing in favour with the public; since employing them in my practice my clients, as a rule, do not care for me to perform any major operations without them.

I am conscious, gentlemen, that I have offered you nothing new in this paper; but my object has been to invite discussion, and to elicit rather than impart information on a subject which I believe to be of the first importance in our profession—as advantageous both to ourselves and to our patients.

Mr. Penhale then exhibited several forms of inhalers for producing anæsthesia, some kindly lent by Messrs. Arnold and Sons; two of the essayist's own invention, for the pig and dog, were viewed with great interest; in each there was a clever contrivance for supplying air, and more chloroform when necessary.

The *President* said he was much pleased and interested with what he had heard. His experience of chloroform on horses was very limited; but he had experimented in the company of a medical man a good deal on dogs and cats; their method was to put the animals under a bell-glass with the evaporating chloroform, and they found if there was a fair admission of air also, the animals became unconscious much more readily. He regarded cocain most valuable for the removal of tumours, especially those at the elbow, and also mammary tumours on bitches. He injected 12 to 15 minims of 5 per cent. solution near the seat of operation. In administering chloroform great care had to be taken not to allow it to touch mucous surfaces, as it caused a violent burning pain and much struggling. He was very glad to welcome a member of the sister profession, and

should be glad to hear any remarks Dr. Honey might be inclined to make.

Dr. Honey said it had given him a great deal of pleasure to listen to the paper, and he was very much obliged for the kind way in which the Association had received him as a visitor. He hoped and believed the day was not far distant when the two sister professions would go hand in hand together. A short time since he assisted his friend Mr. Oliver in chloroforming a pony, which they succeeded in doing in three or four minutes, with a piece of cloth and about two ounces of chloroform. He rather advocated this simple method; he did not quite believe in the complicated inhalers he saw before him. Mucous surfaces should be protected by vaseline from the irritating effects of the contact of chloroform. He should like to know if any of the members present had seen any effect on the minds of the lower animals from the use of cocain.

The *President* replied that he had never seen any ill effects on the lower animals from the use of cocain.

Mr. Oliver greatly advocated the use of chloroform for all operations of any consequence. For castrating nothing could be easier of application or more satisfactory than chloroform and the écraseur.

Mr. Squire did not regard the écraseur as a safe instrument for castration; the spermatic artery was sometimes torn in such a manner that considerable hæmorrhage supervened. He much preferred the actual cautery.

Mr. Ascott said he found no difficulty or danger in producing anæsthesia with the Carlysle inhaler; it was a great boon to the operator to have the patient insensible to pain and lying perfectly still during delicate and important operations. His method of castration was by torsion, which was so rapidly done that he did not deem it necessary to administer chloroform.

Mr. J. H. Penhale said, in answer to Mr. Harvey, that if the side line was properly adjusted around the neck there was no objection to this plan of casting for the administration of chloroform. There was so little danger in its use that he rarely or never asked the owner's consent.

Mr. J. H. Penhale was accorded a very hearty vote of thanks for his paper.

A vote of thanks was also given to Messrs. Arnold and Sons for the loan of some instruments for exhibition.

Mr. Burton gave notice that at the next meeting he would move an alteration in Rule 9 as far as it relates to the time of holding the annual meeting.

The *President* then entertained those present to an excellent dinner, and a most enjoyable evening was spent.

WILLIAM PENHALE, *Hon. Sec.*

ROYAL SCOTTISH VETERINARY MEDICAL SOCIETY.

The annual meeting of this Society was held in the Dick College Buildings, Edinburgh, on Wednesday afternoon, October 8th, Mr. A. Reid, Auchtermuchty, presiding.

Mr. Reid was re-elected president for the ensuing year, and the other office-bearers were also re-elected.

Principal Walley exhibited two lambs infected from an old sheep suffering from orf, or mouth-and-foot disease, which was proved to be highly infectious, and required every precaution to prevent its spread. The Principal also gave particulars of some cases of influenza or pink-eye in horses which he had examined at Newcastle last week. The disease had assumed a most virulent form, and was causing great mortality. The lesions were very similar to those seen in septic poison. He showed the eye of a horse in which blood was thrown out into the interior of the eye. The mortality was, however, confined to one or two studs in Newcastle.

Mr. Campbell, Kirkcudbright, introduced the subject of bone-softening, and illustrated it by specimens from a seven-year-old mare that was bought for 450 guineas. The disease made its appearance much in the fashion of rheumatism, and ultimately affected the jaws. On a *post mortem* being made, nearly the whole of the bones of the body were found completely softened. In the same stud a three-year-old stallion, of the value of 300 guineas, became affected, and slipped in the stable and broke its back. Mr. Campbell discovered that the stud groom had been in the habit of administering large doses of calomel, and he attributed the changes in the bones to the injurious effects of that mercurial compound. A short discussion on the subject followed.

The Dinner.

The Members subsequently dined together in the Douglas Hotel, under the presidency of Mr. Reid, when a number of complimentary toasts were proposed.

W. D. Fairburn, *Hon. Sec.*

Veterinary Jurisprudence.

EXPOSING DISEASED MEAT FOR SALE AT MAIDSTONE—PARTURIENT APOPLEXY.

At a sitting of the Maidstone Court of Summary Jurisdiction on Tuesday, November 11th, before W. Laurence, Esq., W. Day Esq., and G. Baker, Esq.,

George Henry Ray, butcher, was summoned upon the information of William Jackling, Inspector of Nusiances for the borough, for exposing for sale on the 17th October last, in Market Avenue, four quarters and pieces of beef belonging to him, "for the purposes of sale and intended for the food of man," such meat being diseased. Defendant pleaded not guilty.

Mr. D'Eyncourt, barrister, appeared to prosecute on behalf of the Local Board of Health, and *Mr. H. F. Dickens* for the defence.

In opening the case, *Mr. D'Eyncourt* stated that the prosecution was instituted under the Public Health Act of 1875, the 117th section of which statute directed that in the case of unsound meat having been condemned the person to whom it belonged, or in whose possession it was found, should be liable to a penalty not exceeding £20 or imprisonment for not more than three months. He should prove to the Bench that when the meat was found on defendant's premises it was evidently in preparation for sale as human food, for which it was unfit, and was properly condemned.

William Jackling, the borough Inspector of Nuisances, stated that on the 17th October, in consequence of certain information which he received, he saw Mrs. Shirley, the wife of a cowkeeper in West Borough, in consequence of which he afterwards went to defendant's slaughter-house. He there saw hanging up the head of a beast, also the liver, spleen, and other parts. Upon that he went and saw Mr. Ray.

Mr. D'Eyncourt.—What did you say to him?—I said, "You bought a cow the other day which died of milk fever?"

What did defendant say?—He said, "The cow did not;" and I replied, "If she did not die you killed her to save her life." (laughter.)

He afterwards saw in the defendant's shop four quarters of beef and other smaller pieces, all properly dressed, and ready for Saturday's market.

When cut into the meat was very dark—very much darker than I should have expected to see the flesh of an animal which was healthy when killed.

He sent to Mr. Crowhurst, Veterinary Surgeon, and he inspected the meat; also the liver and other parts of the animal.

Mr. Matthew Algernon Adams, Medical Officer of Health of the borough, stated that on Friday, October 17th, he went to Mr. Ray's premises, and, in the presence of Mr. Crowhurst, Mr. Jackling, and defendant, examined the meat, together with certain interior parts, and from its condition he was of opinion that it was not fit for human food.

Mr. Charles Crowhurst, M.R.C.V.S., stated that he was called in to examine the meat. He was struck with the exceedingly dark appearance of the flesh. It looked as if the animal had died without having been bled. The meat looked quite unfit for food. He had never before seen a case in which the blood was so retained.

In your opinion was the flesh unfit for human food?—Yes, quite.

When cross-examined, *Mr. Crowhurst* said his opinion that the flesh was not fit for food was based on its dark appearance and softness. The fact that blood was not oozing from the meat did not show that the animal had been properly bled. He had had great experience in the disease of Parturient Apoplexy, which was very common after parturition. In the later stages of the disease he believed there was poison in the blood. In the early stages the blood was in no way affected, but after two or three days' sickness, in his opinion, it was.

Asked whether if in the earlier stages of parturient apoplexy the animal is killed the flesh would be good?—Said if the animal were killed at that time he believed the flesh to be fit for food.

Mr. Dickens having addressed the Bench for the defence, called

Mr. A. E. Catt, M.R.C.V.S., who stated that he saw the cow in question on Tuesday morning, October 14th, at about nine o'clock. He found the animal in the early stages of parturient apoplexy, and advised that if the animal was then killed its flesh would be perfectly good for food.

In your experience is the flesh of an animal suffering from this disease fit for human food?—Yes, if the animal is killed in the early stages.

The witness said he saw the flesh of the cow after it had been cut up, but failed to notice that it was particularly dark; there was also no flabbiness about the meat. Darkness would increase with hanging.

Cross-examined.—If the flesh of the cow in question had been very dark, would that indicate that it was unfit for food?—Yes, it would.

Professor William Pritchard, a past president of the Royal College of Veterinary Surgeons, was next called by Mr. Dickens. He stated that in parturient apoplexy there was no blood-poisoning, and if an animal affected with the disease was killed in time the flesh was quite fit for human food.

You have probably heard in this case that the symptoms first appeared at about seven o'clock, and the cow was killed at about twelve on the same day; do you think, considering the time which had elapsed, the flesh would be fit for human food?—Yes.

Witness added that the symptoms described by Mr. Catt indicated parturient apoplexy.

Cross-examined.—He had great experience in cases of parturient apoplexy. If an animal were allowed to live a long time after being attacked the flesh would present a dark appearance, and it would then be unwholesome. If a cow was killed, and the flesh presented a very dark appearance, it would not be fit for food.

Mr. J. B. Martin, veterinary surgeon, of Rochester, gave evidence of a corroborative nature.

The evidence for the defence being concluded, the *Chairman* said the point they had to consider was whether or not this carcass, at the time it was exposed for sale, was fit for human food. There was no doubt it was not, and after the evidence they had heard it was impossible to come to any other decision. It was for the defendent to show that the meat was not deposited or exposed for sale purposes, and as he had not done that the Bench had no alternative but to convict, and the fine was £10 with £1 costs, with the alternative of one month.

Mr. Dickens.—I presume you will allow defendant some time in which to pay the fine, as the probability is that we shall appeal?

It was understood that fourteen days would be allowed.

"SHEEP-SCAB."—HEAVY FINE.

Chichester County Bench.

Saturday, Nov. 15th. Before Sir Henry de Bathe, Bart., Sir C. C. Teesdale, V.C., Dr. Tyacke, Captain Podmore, and R. Christy, Esq.

William Upton, farmer, of Colworth, Oving, was summoned for having in his possession upwards of 100 sheep affected with sheep-scab, and failing to treat them with some dressing or other remedy for the disease.

The defendant did not appear, but wrote for an adjournment of the case, which was refused.

Mr. M. Goodman, of Worthing, appeared to prosecute, and said by his neglect defendant had rendered himself liable to penalties amounting in the aggregate to £2,740. He (Mr. Goodman) asked the Bench to inflict such a penalty as should mark their sense of the gravity of the offence.

After hearing evidence, the Bench retired to consult, and on their return Sir H. de Bathe said that they considered Mr. Upton had been leniently dealt with on the last occasion. The sheep, planted as they were in all parts of his farm, were highly dangerous to other flocks. Defendant had acted in defiance of the authorities, and must now pay a fine of £100, and if he did not immediately take in hand the treatment of the sheep he would have a heavier fine to pay. Such conduct was not consistent with the position of an honest man.

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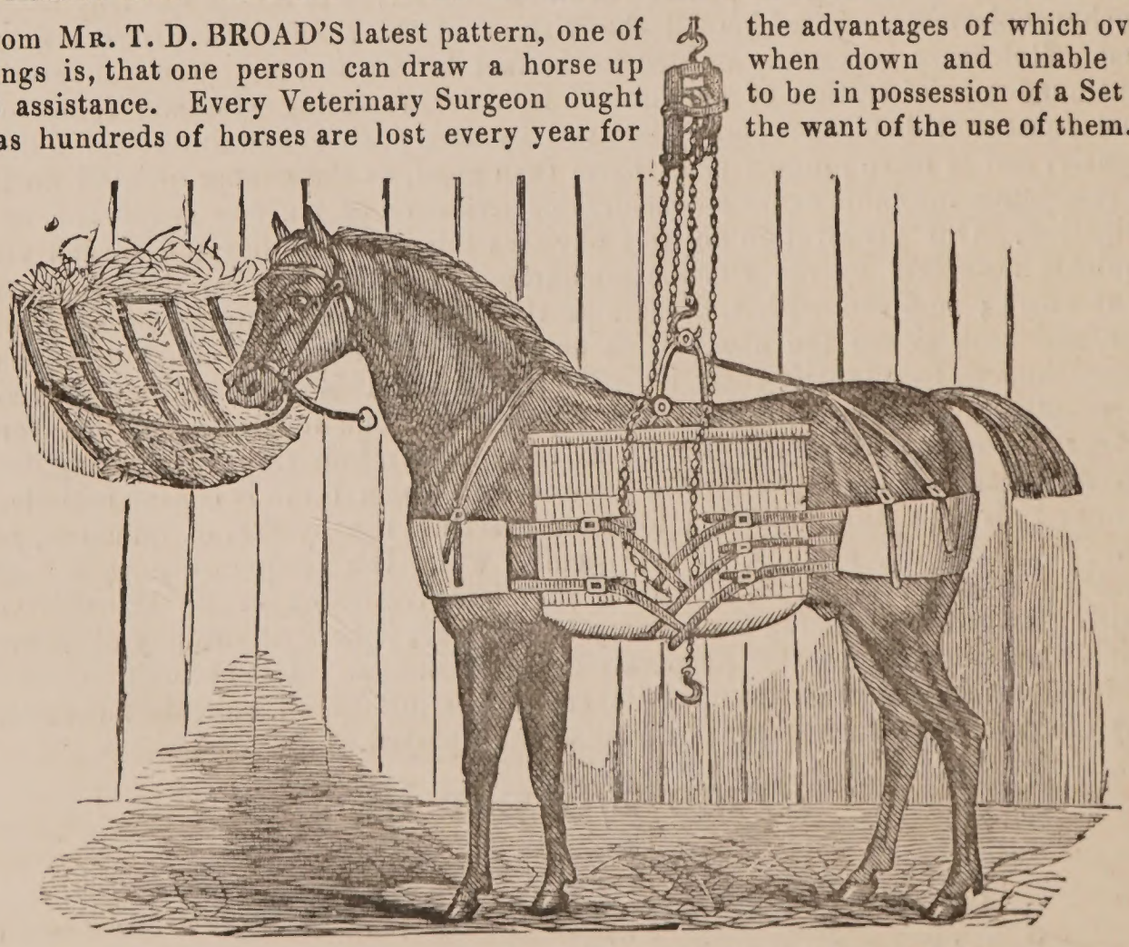

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A Subscriber has likewise the privilege of having five horses examined *as to soundness* in the course of a year, and to receive the opinion of the Professors thereon, either verbally or in writing, free of charge; and also any further number at a fee of ten shillings and sixpence for each *extra* horse, or to have ten horses examined on payment, in addition to his Annual Subscription, of two guineas, or such other sum as shall from time to time be fixed by the Governing Body or General Purposes Committee.

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In addition to these Prizes the Royal Agricultural Society awards a *Silver* and a *Bronze Medal* to the two Students who may pass the best examination in the Pathology of Cattle, Sheep, and Pigs, at the Diploma Examination of the Royal College of Veterinary Surgeons.

The College Entrance Fee is *Sixty Guineas;* The payment of which confers the right of attendance on *all* the Lectures and Collegiate Instructions. The fee may be paid in *three* instalments, viz., Twenty Guineas on *entry,* Twenty Guineas at the end of the *first period* of study, and Twenty Guineas at the *second period* of study—the first instalment must, with the Matriculation Examination Fee of One Guinea, as well as the Library and Reading Room Fee of One Guinea, be paid prior to this Examination.

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Besides these Lectures and Demonstrations, the facilities which exist in the Institution are such as to enable Pupils, by attention to their duties, to acquire a well-grounded practical knowledge of their profession, and thus, on obtaining their Diploma, to at once merit the confidence of the public. This will become fully apparent when it is remembered that, for several past years, upwards of 2000 animals have been annually prescribed for and treated as GRATUITOUS PATIENTS *by the Pupils under the Supervision of the Teachers.*

In addition to the practical knowledge thus to be obtained, the Pupils have the daily advantage of attending the Professors on their visits to the Patients in the Hospital, thereby becoming acquainted with the diagnosis and treatment of each individual case. Similar advantages are likewise enjoyed by them with reference to the Out-Patients. They also attend on the Professors in their Examinations of Horses for Soundness, the yearly average number of which exceeds 1000. It may be further added, as showing the advantage of the College for obtaining practical knowledge, that the number of animals admitted into the Hospital or treated as Out-Patients year by year exceeds 2000, or more than doubles those sent for examination as to soundness.

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The Examinations are held in May and December.

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